



88009799

P R SPRING COMBINED HYDROCARBON LEASE CONVERSION

Final Environmental Impact Statement

Department of the Interior
Bureau of Land Management
Denver Service Center,
Division of Environmental
Impact Statement Services

October 1985



TD
195
.S95
P7
1985b

Vernal District
170 South 500 East
Vernal, Utah 84078

Dear Reader:

This final environmental impact statement (FEIS) on the P R Spring Combined Hydrocarbon Lease Conversion is provided for your information and use. This volume is a supplement to the draft EIS, which was published on May 20, 1985.

The Bureau of Land Management (BLM) would like to take this opportunity to thank the individuals and organizations who provided suggestions and comments on the draft EIS.

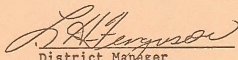
Copies of the draft and final EIS may be obtained from Lloyd Ferguson, District Manager, Bureau of Land Management, 170 South 500 East, Vernal, Utah 84078. A limited number of copies may be obtained from the Public Room, Bureau of Land Management, Utah State Office, Consolidated Financial Center, 324 South State Street, Salt Lake City, Utah 84111-2303. This document can also be reviewed at the Moab BLM District Office, 125 West Second South, Moab, Utah, or at the BLM Washington Office, Office of Public Affairs, 18th and C Streets, NW, Washington, D.C.

This final EIS is not a decision document. Decisions on the requested BLM actions for the project will be based on the analysis in the final EIS, public concerns and comments, and other multiple-use resource objectives or programs that apply to the project. Please send your concerns about the project or other factors you feel should be considered in the decision to:

Lloyd Ferguson, District Manager
Bureau of Land Management
170 South 500 East
Vernal, Utah 84078

Written comments will be considered in the decision if they are received by November 12, 1985. A Record of Decision that outlines the decision and the rationale for it will be prepared and released to the public as soon as the decision is reached.

Sincerely yours,


District Manager
Vernal District Office

88059799

Department of the Interior

BLM Library
D-555A, Building 50
Denver Federal Center
P. O. Box 25047
Denver, CO 80225-0047

TD
195
-595
P7
1985b

FINAL
Environmental Impact Statement

on the

RECEIVED

OCT 09 1985

OIL SHALE PROJECTS OFFICE

**P R SPRING COMBINED
HYDROCARBON LEASE
CONVERSION**

Prepared by
BUREAU of LAND MANAGEMENT

October 1985



District Manager - Vernal District Office

6287

6288

6289

6290

6291

6292

6293

6294

6295

6296

6297

6298

6299

6300

6301

6302

6303

6304

6305

6306

6307

6308

6309

6310

6311

6312

6313

6314

6315

6316

6317

6318

6319

6320

6321

6322

6323

6324

6325

6326

6327

6328

6329

6330

6331

6332

6333

6334

6335

6336

6337

6338

6339

6340

6341

6342

6343

6344

6345

6346

6347

6348

6349

6350

6351

6352

6353

6354

6355

6356

6357

6358

6359

6360

6361

6362

6363

6364

6365

6366

6367

6368

6369

6370

6371

6372

6373

6374

6375

6376

6377

6378

6379

6380

6381

6382

6383

6384

6385

6386

6387

6388

6389

6390

6391

6392

6393

6394

6395

6396

6397

6398

6399

6400

6401

6402

6403

6404

6405

6406

6407

6408

6409

6410

6411

6412

6413

6414

6415

6416

6417

6418

6419

6420

6421

6422

6423

6424

6425

6426

6427

6428

6429

6430

6431

6432

6433

6434

6435

6436

6437

6438

6439

6440

6441

6442

6443

6444

6445

6446

6447

6448

6449

6450

6451

6452

6453

6454

6455

6456

6457

6458

6459

6460

6461

6462

6463

6464

6465

6466

6467

6468

6469

6470

6471

6472

6473

6474

6475

6476

6477

6478

6479

6480

6481

6482

6483

6484

6485

6486

6487

6488

6489

6490

6491

6492

6493

6494

6495

6496

6497

6498

6499

6500

6501

6502

6503

6504

6505

6506

6507

6508

6509

6510

6511

6512

6513

6514

6515

6516

6517

6518

6519

6520

6521

6522

6523

6524

6525

6526

6527

6528

6529

6530

6531

6532

6533

6534

6535

6536

6537

6538

6539

6540

6541

6542

6543

6544

6545

6546

6547

6548

6549

6550

6551

6552

6553

6554

6555

6556

6557

6558

6559

6560

6561

6562

6563

6564

6565

6566

6567

6568

6569

6570

6571

6572

6573

6574

6575

6576

6577

6578

6579

6580

6581

6582

6583

6584

6585

6586

6587

6588

6589

6590

6591

6592

6593

6594

6595

6596

6597

6598

6599

6600

6601

6602

6603

6604

6605

6606

6607

6608

6609

6610

6611

6612

6613

6614

6615

6616

6617

6618

6619

6620

6621

6622

6623

6624

6625

6626

6627

6628

6629

6630

6631

6632

6633

6634

6635

6636

6637

6638

6639

6640

6641

6642

6643

6644

6645

6646

6647

6648

6649

6650

6651

6652

6653

6654

6655

6656

6657

6658

6659

6660

6661

6662

6663

6664

6665

6666

6667

6668

6669

6670

6671

6672

6673

6674

6675

6676

6677

6678

6679

6680

6681

6682

6683

6684

6685

6686

6687

6688

6689

6690

6691

6692

6693

6694

6695

6696

6697

6698

6699

6700

6701

6702

6703

6704

6705

6706

6707

6708

6709

6710

6711

6712

6713

6714

6715

6716

6717

6718

6719

6720

6721

6722

6723

6724

6725

6726

6727

6728

6729

6730

6731

6732

6733

6734

6735

6736

6737

6738

6739

6740

6741

COVER SHEET
P R Spring Combined Hydrocarbon Lease Conversion
Environmental Impact Statement

() Draft

(X) Final

EIS Contact

Lead Agency

U.S. Department of the Interior
Bureau of Land Management

Jurisdictions in Utah that Could
Be Affected

Grand County
Uintah County

Abstract

The draft and final environmental impact statements (EISs) assess the environmental consequences of federal approval of converting existing oil and gas leases within the P R Spring and Hill Creek Special Tar Sand Areas (STSAs) to combined hydrocarbon leases. The Proposed lease conversions include the Beartooth A, Beartooth B, Bradshaw, Duncan, Enercor, Enserch, Farleigh, Kirkwood, Mobil, and Thompson projects. The EISs address the site-specific and cumulative impacts of the 10 proposed actions and No Action alternatives. Cumulative impacts are those impacts that would occur as a result of the proposed actions plus other inter-related projects planned for development in the project areas during the analysis period. Based on the issues and concerns identified during the scoping process, the EIS focuses on impacts to Water Resources, Socioeconomics, Air Quality, Soils and Vegetation, and Wilderness.

Comments on this EIS should be directed to:

Lloyd Ferguson, District Manager
Bureau of Land Management
170 South 500 East
Vernal, Utah 84078

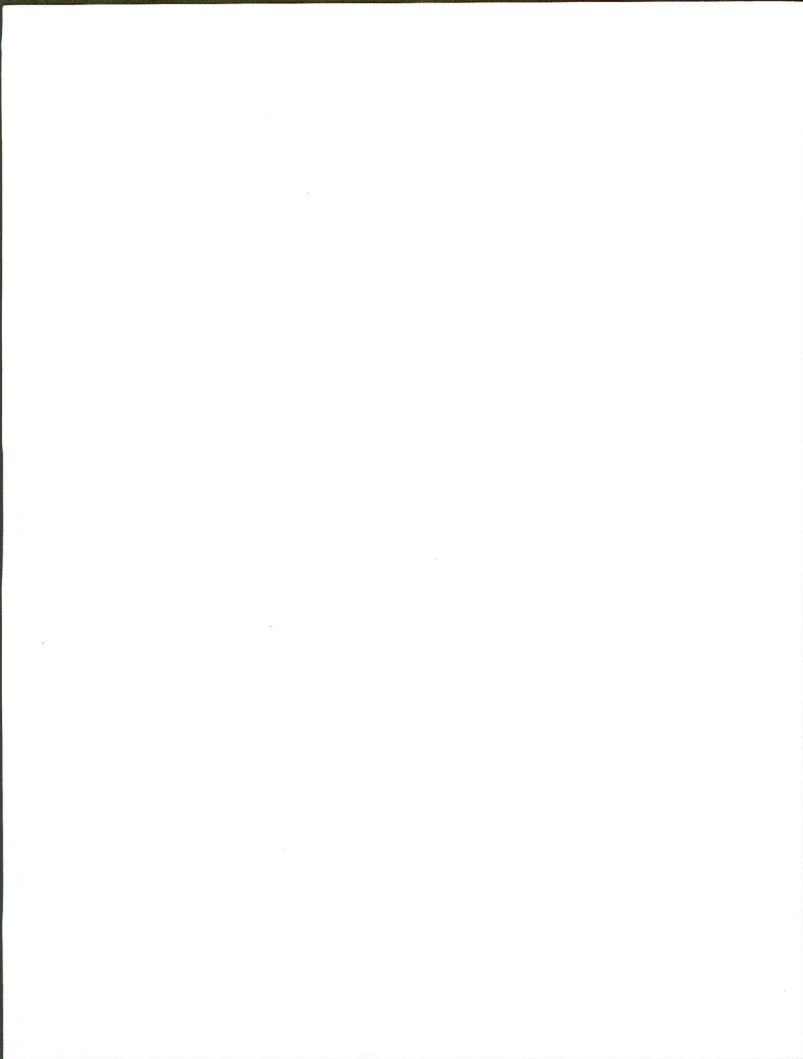
Decision Process

The final EIS is not a decision document. A Record of Decision will be prepared and released to the public. Decisions on the use of public lands for this project will not be made until at least 30 days after the Environmental Protection Agency (EPA) Final EIS Notice of Availability has appeared in the Federal Register. During the 30-day period, written comments on the content of this final EIS, or on concerns that should be considered in the decision, will be accepted at the address noted above. Comments received during this period will be considered in the decision-making process.

Date EISs Made Available to EPA and the Public

Draft: May 20, 1985

Final: October 18, 1985



The purpose of this final environmental impact statement (EIS) is to supplement the draft EIS, which was published May 20, 1985. Reviewed together, the draft and final EISs incorporate the analyses of the affected environment and potential environmental consequences resulting from the federal approval of converting existing oil and gas leases within the P R Spring and Hill Creek Special Tar Sand Areas to combined hydrocarbon leases.

This final should not be considered as a complete EIS. It must be used in conjunction with the draft EIS.

This document consists of four sections. The Summary is repeated, with only minor revisions, from the draft EIS. Section 1, Revisions and Corrections, shows changes made to the text, tables, maps, and figures as result of comments received during the 60-day review period. Section 2, Consultation and Coordination, presents background information and then displays copies of the comment letters received during the review period. All comment letters are reprinted verbatim. BLM responses to individual comments follow immediately after each letter. Section 3 consists of the U.S. Fish and Wildlife Service biological opinion.

There were no changes to the draft Air Quality Technical Report. The draft therefore serves as the final Air Quality Technical Report.

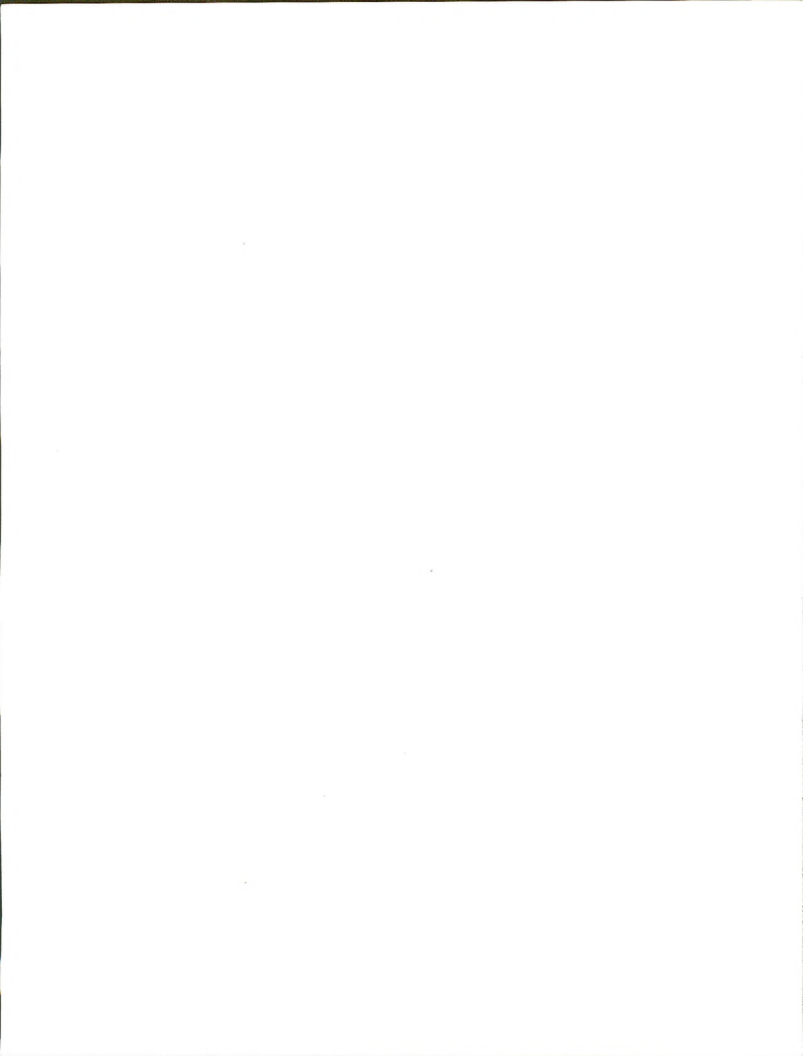


TABLE OF CONTENTS

	<u>Page</u>
Summary	1
General Summary	3
Beartooth A Project Summary	7
Beartooth B Project Summary	10
Bradshaw Project Summary	13
Duncan Project Summary	15
Enercor Project Summary	18
Enserch Project Summary	22
Farleigh Project Summary	25
Kirkwood Project Summary	28
Mobil Project Summary	31
Thompson Project Summary	36
Section 1--Revisions and Corrections	39
Section 2--Consultation and Coordination	49
Section 3--Biological Opinion117



SUMMARY



The P R Spring and Hill Creek Special Tar Sand Areas (STSAs) have the potential for tar sand resource development. In addition, the STSAs contain opportunities for a variety of other resource development and human activities that would be affected by tar sand development.

Proponents of 10 tar sand projects have filed applications with the Bureau of Land Management (BLM) to convert existing oil and gas leases within the STSA to combined hydrocarbon leases in accordance with the Combined Hydrocarbon Leasing Act of 1981. Approval of the conversion applications would permit phased tar sand development. Because the location and extent of the resource are not known, project designs are conceptual. Should a lease be converted, a more site-specific environmental analysis would be needed before the types of commercial production addressed in this environmental impact statement (EIS) would be permitted. See Map A-1 for general locations of the project areas.

The applicants' plans of operations estimate an individual project life span of 28 to 100 years or more. Each applicant plans to have 150 to 40,000 barrels of oil a day produced from its project.

The tar sand development would cause impacts either by displacing resources (such as removal of vegetation), using resources (such as water consumption), or creating other changed conditions (such as visual scars or community growth). The analysis in this environmental impact statement (EIS) focuses on these kind of potential impacts by individual project. A separate, site-specific analysis has been prepared for each project. This EIS analyzes 10 projects in one EIS rather than 10 separate documents.

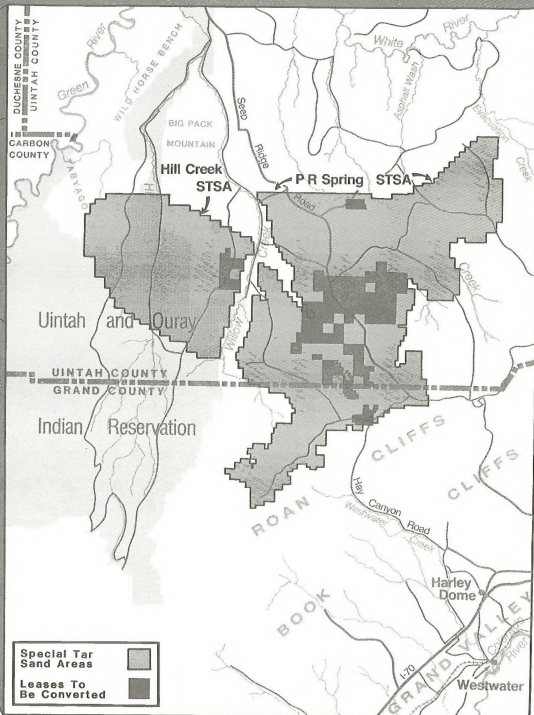
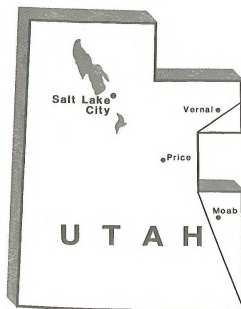
Almost 40 percent of the Beartooth B project area (598 acres of 1,520 acres proposed for lease conversion); 16 percent of the Enercor project area (4,206 acres of 26,583 acres proposed for lease conversion); 94 percent of the Enserch project area (1,020 acres of 1,080 acres proposed for lease conversion); and 12 percent of the Mobil project (404 acres of 3,337 acres proposed for lease conversion) lies within the 42,462 acres Winter Ridge WSA.

UNRESOLVED ISSUES

During EIS preparation, the following issues and potential conflicts were identified that would be subject to further discussion, coordination, and action and that would need to be resolved outside the EIS process and following lease conversion: socioeconomic, split estate (differing surface and subsurface ownership of a given area of land); and uncertainty of national prospects for a tar sand industry.

Socioeconomics

The extent to which socioeconomic impacts could be offset as a result of actions taken under Utah law is unresolved. Utah Code Annotated Section 63-51-10 (Supp. 1981) (Senate Bill 170) and the affected county permitting process require that developers of a major project submit a socioeconomic mitigation analysis. The analysis identifies the cost of providing socioeconomic services made necessary by the project and contains strategies



MAP A1
P R SPRING AND HILL
CREEK SPECIAL TAR
SAND AREA LOCATION

to pay for the mitigation program. This legislation, however, mandates specific mitigation measures, and actual mitigation plans would be determined through negotiations between the project proponents, state agency representatives, and local government officials.

Wilderness

Developing combined hydrocarbon leases within the Winter Ridge Wilderness Study Area (WSA) would be constrained by the Bureau of Land Management (BLM) wilderness nonimpairment criteria (Section C, Appendix 2). This would likely prohibit development of certain portions of a lease in the WSA, unless a Congressional decision is made not to designate the WSA as wilderness.

Split Estate

Surface and subsurface ownership within the STSA is complex. The Federal Government may have subsurface mineral rights to an area whose surface is privately owned. Any decision on resource recovery on a conversion area would involve consultation with the surface owner, BLM representatives, and the lessee or operator before the surface is disturbed or the lease rights are implemented.

Synfuels Uncertainties

Tar sand development within the STSA would be influenced by many complex factors, some of which are beyond the control of project proponents or agencies with authorizing actions. Such factors include (1) national policies on synfuels as related to other energy alternatives, (2) the availability of money in the private sector and the interest shown by large financial organizations, (3) the international price of oil, and (4) the effectiveness of energy conservation programs.

The uncertainty of these factors could continue indefinitely. Since the development of the proposed conversion areas would involve program phase and a 28- to 100-year long financial commitment during commercial operation, the uncertainties would strongly influence decisions by the project proponents on the future scheduling and design of the proposed projects. Schedules and plans of operations discussed in this EIS represent the proponents' current objectives but may be revised as influenced by future events.

Synfuels uncertainties also make it difficult for local governments and others to plan services to meet the needs of project-related growth.

The major potential impacts from each of the Proposed Actions are detailed in Section B, by project, and summarized in 10 separate summaries, which are also in Section B. Each project is analyzed as though the others were not proposed, building on the premise that each is an individual proposal.

ANALYSIS CONCLUSIONS

The analysis indicates that, in general, each project by itself would have impacts of a nature and magnitude that could be managed without undue degradation to other natural resources or to socioeconomic conditions. The mitigation measures identified in Appendix 2 are designed to lessen impacts to resources and/or provide restoration of disturbed areas. Even so, individual projects would cause impacts, and these are noted in this EIS.

BLM PREFERRED ALTERNATIVES

There are ten separate decisions for each of the ten projects as to whether or not existing oil and gas leases should be converted into combined hydrocarbon leases. The BLM preferred alternatives are to convert existing oil and gas leases into combined hydrocarbon leases for each of the ten separate projects. (Refer to Section B for the preferred alternatives for each project.)

Water Resources

The project would require about 0.3 acre-feet of water per year, which would be insignificant. The amount of sedimentation produced by the clearing required for the project would depend on the location of the drill pads for each well. By following the proper construction methods detailed in Appendix 2, no significant sedimentation impacts would occur. Since ground water in the area is mostly below the tar sand beds, no significant direct impacts would occur. Once the bitumen is removed, the remaining sand bed would have different hydrologic characteristics that may lead to a change in the flow or location of local springs and seeps.

Socioeconomics

None of the phases would cause any significant impacts to the local towns or communities. Total employment and per capita personnel income would increase by less than 1 percent in all jurisdictions in each of the phases of development. Effects on housing, public services and facilities, and social conditions in the area of influence would be insignificant.

Air Quality

Increased sulfur dioxide (SO_2) and total suspended particulate concentrations would be a fraction of the Prevention of Significant Deterioration increments, and total concentrations of all criteria pollutants would be within the National Ambient Air Quality Standards. Visibility impacts and acid deposition rates were predicted to be well within the significance criteria. None of the air quality impacts are expected to be significant.

Soils and Vegetation

Over the life of the project a total of 1,050 acres could be disturbed, with approximately 30 acres disturbed at any one time. Of that total, 965 acres of sensitive soil would be disturbed. No significant impacts would occur to soils or vegetation and all disturbed land would be reclaimed through the use of the measures outlined in Appendix 2. Threatened, endangered, or sensitive plant species could occur within the project area; therefore, the area must be surveyed and cleared, as prescribed by law before any surface disturbance begins.

Wildlife

The project would disturb 0.2 percent of the 403,008 acres of crucial mule deer winter range in deer herd unit 28A and about 0.5 percent of the total crucial elk winter range in herd unit 21. These impacts would not be significant.

No significant impacts would occur to reptiles and amphibians, regional sport fisheries, or sage grouse.

Although endangered peregrine falcons and bald eagles could overfly the area, no impacts are anticipated. If prairie dog colonies are found, the project area must be surveyed for black-footed ferrets.

Transportation Networks

Hauling of the commercial product could significantly affect the condition of 3 miles of the Kings Well Road because local funding may not be sufficient to meet increased maintenance needs. No other roads would be significantly affected.

Visual Resources

Significant impacts would occur within the VRM Class IV foreground/middleground viewing area from Kings Well Road as a result of structural changes (drill rig, production well, trucks, support buildings, etc.) and vegetation clearings. These impacts would remain until physical structures were removed and revegetation returned portions of the landscape to predisturbance conditions. Of the total 1,050 acres that would be disturbed over the life of the project, about 40 percent of the area, or 420 acres, would be significantly affected.

Wilderness

The Beartooth A project area would not cross the boundary of an existing wilderness or wilderness study area (WSA). The project would be located within 5 miles (and to the northeast) of the Winter Ridge WSA. No significant impacts arising from sights and sounds outside the WSA are anticipated, since it is unlikely that the project area could be viewed or heard from the WSA.

Recreation

No significant long-term impacts would occur to the recreation resource, other than to the sightseeing opportunity. About 20 acres per year would be removed from use for undeveloped recreation opportunities. The project is not expected to interfere with hunting, ORV activities, or other types of opportunities in the area.

Cultural Resources

The project would disturb about 965 acres of high site density probability and about 48 acres of medium site density probability over the life of the project. Indirect impacts from unauthorized collection of artifacts would not be significant, given the small work force increases.

Mineral and Paleontological Resources

No significant impacts to mineral or paleontological resources would occur. In situ recovery would result in recovering 40 to 50 percent of the in-place oil. No conflict would occur to oil and gas development and only minor conflicts could occur to oil shale development. No other mineral resources would be affected by tar sand development.

Agriculture

Impacts to forage production would amount to less than 0.1 percent of the total forage, which is insignificant. Invader plants would occupy less than 10 percent of the disturbed area and poisonous plants, less than 2 percent. These impacts would also be insignificant. Forage that could be lost through disruption of watering facilities and grazing patterns is unknown; however, the probability of this occurring is expected to be low. No cropland would be converted to urban uses from project-related population increases; no cropland occurs in the project area itself.

BLM PREFERRED ALTERNATIVE

Conversion of the two leases as proposed, including mitigation discussed in Appendix 2, is the BLM preferred alternative. BLM supports this alternative because it would lead to more efficient and orderly tar sand recovery consistent with the diligent development and reasonable environmental protection objectives of the Combined Hydrocarbon Leasing Act.

Water Resources

The project would require about 0.3 acre-feet of water per year, which would be insignificant. The amount of sedimentation produced in the clearing required by the project would depend on the location of the drill pads for each well. By following proper construction methods detailed in Appendix 2, no significant sedimentation impacts would occur. Since ground water in the area is mostly below the tar sand beds, no significant direct impacts would occur. Once the bitumen is removed, the remaining sand bed would have different hydrologic characteristics that may lead to a change in the flow or location of local springs and seeps.

Socioeconomics

None of the phases would cause any significant impacts to the local towns or communities. Total employment and per capita personnel income would increase by less than 1 percent in all jurisdictions in each of the phases of development. Effects on housing, public services and facilities, and social conditions in the area of influence would be insignificant.

Air Quality

Increased SO₂ and TSP concentrations would only be a fraction of the PSD increments, and total concentrations of all criteria pollutants would be within the NAAQS. Visibility impacts and acid deposition rates were predicted to be well within the significance criteria. None of the air quality impacts are expected to be significant.

Soils and Vegetation

Over the life of the project a total of 575 acres could be disturbed, with approximately 20 acres disturbed at any one time. Of that total, 286 acres of sensitive soil would be disturbed. No significant impacts would occur to soils or vegetation and all disturbed land would be reclaimed through the use of the measures outlined in Appendix 2. Threatened, endangered, or sensitive plant species would not be adversely affected since none are known to occur within the area of disturbance.

Wildlife

The Beartooth B project would disturb 0.2 percent of the crucial elk winter range in herd unit 21; this impact would not be significant. No significant adverse impacts to elk are anticipated. Impacts to blue grouse, sage grouse, and regional sport fisheries would not be significant. Endangered peregrine falcons could overfly the area, but no impacts are anticipated.

Transportation Networks

Hauling the commercial product could significantly affect the condition of 2.6 miles of Pretty Valley Ridge Way, 3.2 miles of Winter Ridge Road, and 8.4 miles of the Divide Ridge Road. Local funding may not be sufficient to meet increased maintenance needs. No other roads would be significantly affected.

Visual Resources

No significant visual impacts would occur to the visual resource. In situ operations would be generally compatible with the VRM Class IV objectives for the project area.

Wilderness

Although almost 40 percent of the Beartooth B project area (598 acres) lies within the Winter Ridge WSA, the lease could still be converted to combined hydrocarbon use (Office of the Solicitor 1983). Development of that lease, however, would be constrained by the wilderness nonimpairment criteria (Section C, Appendix 2) which would likely prohibit development of that portion of the lease in the WSA unless a Congressional decision is made not to designate the WSA as a wilderness. If the Winter Ridge WSA was designated wilderness, the portion of the Beartooth B project located in the WSA would likely not be developed. The project would be located within 10 miles of the Flume Canyon WSA and over 10 miles from the Wildlife and Cultural Resource Protection Area of the Uintah and Ouray Indian Reservation; no direct impacts are anticipated.

Recreation

No significant long-term impacts would occur to the recreation resource. Little land would be removed from use for undeveloped recreation opportunities. The project is not expected to interfere with hunting, ORV activities, or other types of opportunities in the area.

Cultural Resources

The project would disturb about 272 acres with high site density probability and about 81 acres with low site density probability, over the life of the project. One potentially significant site, a pictograph in a rock shelter, is not in a probable disturbance area, so no impacts should occur. Indirect impacts from unauthorized collection of artifacts would not be significant, given the small work force increases.

Mineral and Paleontological Resources

No significant impacts to mineral or paleontological resources would occur. In situ recovery would result in recovering of 40 to 50 percent of the in-place oil. The project would not affect oil and gas, oil shale, or other mineral development.

Agriculture

Impacts to forage production would amount to less than 1 percent of the total forage, which is insignificant. Invader plants would occupy less than 10 percent of the disturbed area and poisonous plants, less than 2 percent. These impacts would also be insignificant. The forage that could be lost through disruption of watering facilities and grazing patterns is unknown; however, the probability of this occurring is expected to be low. No cropland would be converted to urban uses from project-related population increases; no cropland exists within the project area itself.

BLM PREFERRED ALTERNATIVE

Conversion of all leases as proposed, including mitigating discussed in Appendix 2, is the BLM preferred alternative. BLM supports this alternative because it would lead to more efficient and orderly tar sand recovery consistent with the diligent development and reasonable environmental protection objectives of the Combined Hydrocarbon Leasing Act.

Water Resources

The project would require about 0.3 acre-feet of water per year, which would be insignificant. The amount of sedimentation produced in the clearing required by the project would depend on the location of the drill pads for each well. With the use of the proper construction methods detailed in Appendix 2, no significant sedimentation impacts would occur. Since ground water in the area is mostly below the tar sand beds, no significant direct impacts would occur. Once the bitumen is removed, the remaining sand bed would have different hydrologic characteristics. This may lead to a change in the flow or location of local springs and seeps.

Socioeconomics

None of the phases would cause any significant impacts to the local towns or communities. Total employment and per capita personnel income would increase by less than 1 percent in all jurisdictions in each of the phases of development. Effects on housing, public services and facilities, and social conditions in the area of influence would be insignificant.

Air Quality

Increased SO₂ and TSP concentrations would only be a fraction of the PSD increments, and total concentrations of all criteria pollutants would be within the NAAQS. Visibility impacts and acid deposition rates were predicted to be well within the significance criteria. None of the air quality impacts are expected to be significant.

Soils and Vegetation

Over the life of the project a total of 260 acres could be disturbed, with approximately 20 acres disturbed at any one time. Of that total, 35 acres of sensitive soil would be disturbed. No significant impacts would occur to soils or vegetation and all disturbed land would be reclaimed through the use of the measures outlined in Appendix 2. Threatened, endangered, or sensitive plant species would not be adversely affected since none are known to occur within the area of disturbance.

Wildlife

The project would disturb 0.1 percent of crucial elk winter range in herd unit 21, which would be insignificant. Sage grouse, blue grouse, mourning doves, and regional sport fisheries would not be adversely affected. Endangered peregrine falcons could overfly the area, but no impacts are anticipated.

Transportation Networks

Hauling oil during the commercial production phase could significantly affect the condition of 4.4 miles of Monument Ridge Road. Local funding may not be sufficient to meet increased maintenance needs. No other roads would be significantly affected.

Visual Resources

No significant visual impacts would occur to the visual resource. In situ operations would be generally compatible with the VRM Class IV objectives for the project area.

Wilderness

The Bradshaw project area would not cross the boundary of an existing wilderness or WSA. The project would be located within 6 miles of the Winter Ridge WSA and over 14 miles from the Wildlife and Cultural Resource Protection Area of the Uintah and Ouray Indian Reservation; no direct impacts are anticipated.

Recreation

No significant long-term impacts would occur to the recreation resource. Little land would be removed from use for undeveloped recreation opportunities. The project is not expected to interfere with hunting, ORV activities, or other types of opportunities in the area.

Cultural Resources

The project would disturb about 144 acres of high site density probability over the life of the project. Indirect impacts from unauthorized collection of artifacts would not be significant, given the small work force increases.

Mineral and Paleontological Resources

No significant impacts to mineral or paleontological resources would occur. In situ recovery would result in recovering of 40 to 50 percent of the in-place oil. No oil and gas, oil shale, or other mineral development would be affected by this project.

Agriculture

Impacts to forage production would amount to less than 0.1 percent of the total forage, which is insignificant. Invader plants would occupy less than 10 percent of the disturbed area and poisonous plants, less than 2 percent. These impacts would also be insignificant. The forage that could be lost through disruption of watering facilities and grazing patterns is unknown; however, the probability of this occurring is expected to be low. No cropland would be converted to urban uses from project-related population increases; no cropland occurs in the project area itself.

BLM PREFERRED ALTERNATIVE

Conversion of the lease as proposed, including mitigation discussed in Appendix 2, is the BLM preferred alternative. BLM supports this alternative because it would lead to more efficient and orderly tar sand recovery consistent with the diligent development and reasonable environmental protection objectives of the Combined Hydrocarbon Leasing Act.

Water Resources

The project would require about 0.3 acre-feet of water per year, which would be insignificant. The amount of sedimentation produced by the clearing required for the project would depend on the location of the drill pads for each well. With the use of the proper construction methods detailed in Appendix 2, no significant sedimentation impacts would occur. Since ground water in the area is mostly below the tar sand beds, no significant direct impacts would occur. Once the bitumen is removed, the remaining sand bed would have different hydrologic characteristics that may lead to a change in the flow or location of local springs and seeps. No significant impact would occur to the public water reserve located near this project.

Socioeconomics

None of the phases would cause any significant impacts to the local towns or communities. Total employment and per capita personnel income would increase by less than 1 percent in all jurisdictions in each of the phases of development. Effects on housing, public services and facilities, and social conditions in the area of influence would be insignificant.

Air Quality

Increased SO₂ and TSP concentrations would only be a fraction of the PSD increments, and total concentrations of all criteria pollutants would be within the NAAQS. Visibility impacts and acid deposition rates were predicted to be well within the significance criteria. None of the air quality impacts are expected to be significant.

Soils and Vegetation

Over the life of the project a total of 1,120 acres could be disturbed, with approximately 20 acres disturbed at any one time. Of that total, 765 acres of sensitive soil would be disturbed. No significant impacts would occur to soils or vegetation and all disturbed land would be reclaimed through the use of the measures outlined in Appendix 2. Threatened, endangered or sensitive plant species would not be adversely affected since none are known to occur within the area of disturbance.

Wildlife

The project would disturb 2 percent of crucial elk summer range in herd unit 21, which would not be significant. Sage grouse would be adversely affected by harassment during the strutting, nesting, and brooding seasons. Impacts to regional sport fisheries would not be significant. Endangered peregrine falcons could overfly the area, but no impacts are anticipated.

Transportation Networks

Two miles of jeep trails could be significantly affected during Commercial operation. No other roads would be significantly affected.

Visual Resources

No visual impacts would occur to the VRM Class IV areas outside the foreground/middleground viewing area from Seep Ridge Road. However, significant impacts would occur within this viewing area as a result of structural changes and vegetation clearings. These impacts would remain until physical structures were removed and revegetation returned portions of the landscape to predisturbance conditions. Of the total 1,120 acres that would be disturbed over the life of the project, only about 6 percent of the area, or 65 acres, would be significantly affected.

Wilderness

The Duncan project area would not cross the boundary of an existing wilderness or wilderness study area (WSA). The project would be located within 2 miles of the Winter Ridge WSA. However, the impacts arising from sights and sounds outside the WSA would be insignificant because distance and visual screening (vegetation and topography) would obscure project development activities. The project area would be located over 10 miles from the Flume Canyon WSA and over 12 miles from the Wildlife and Cultural Resource Protection Area of the Uintah and Ouray Indian Reservation; no direct impacts are anticipated.

Recreation

No significant long-term impacts would occur to the recreation resource, other than to the sightseeing opportunity. Little land would be removed from use for undeveloped recreation opportunities. The project is not expected to interfere with hunting, ORV activities, or other types of opportunities in the area.

Cultural Resources

The project would disturb about 277 acres with high site density probability and about 747 acres with low site density probability over the life of the project. Indirect impacts from unauthorized collection of artifacts would not be significant, given the small work force increases.

Mineral and Paleontological Resources

No significant impacts to mineral or paleontological resources would occur. In situ recovery would result in recovering 40 to 50 percent of the in-place oil. No oil and gas, oil shale, or other mineral development would be affected by the project.

Agriculture

Impacts to forage production would amount to less than 1 percent of the total forage, which is insignificant. Invader plants would occupy less than 10 percent of the disturbed area and poisonous plants, less than 2 percent. These impacts would also be insignificant. The forage that could be lost

through disruption of watering facilities and grazing patterns is unknown; however, the probability of this occurring is expected to be low. No cropland would be converted to urban uses from project-related population increases; and no cropland occurs in the project area itself.

BLM PREFERRED ALTERNATIVE

Conversion of the lease as proposed, including mitigation discussed in Appendix 2, is the BLM preferred alternative. BLM supports this alternative because it would lead to more efficient and orderly tar sand recovery consistent with the diligent development and reasonable environmental protection objectives of the Combined Hydrocarbon Leasing Act.

Water Resources

Disturbances to local watershed areas from core drilling activity during the exploration phase would be insignificant. Mine construction, overburden and topsoil stockpiling, road construction, and facility construction could affect surface water on the project site during the pilot and commercial phases. With the use of the various required mitigation measures outlined in Appendix 2, impacts to water quality would be insignificant. Also, since the disturbance would occur on the upland plateaus, changes in sediment levels for streams outside the project area would be insignificant. As the surface mine is opened, some shallow ground water zones may be interrupted, thereby affecting some springs and seeps. However, no impacts are anticipated to any ground water aquifers or springs and seeps in strata zones below the tar sands. If 700 acre-feet of water was acquired from the Douglas Creek aquifer for the proposed project, the flows of an undetermined number of springs and seeps near the proposed project site could be reduced or eliminated.

Impacts to the public water reserve would probably occur from surface mining upstream. Although a sediment pond would be located above the reserve, the pond may not be sufficient to hold increased runoff. These impacts could also permanently reduce spring flow or water quality at the reserve's water source.

Socioeconomics

Commercial development from 1986 onward would result in significant population increases from 1 to 17 percent in smaller communities such as Gusher and Ouray, Utah. Project-related population growth would mainly affect infrastructure and quality of life. Inadequate housing, further crowding of local public schools, inadequate Indian health services, and additional personnel for tribal police are likely to affect smaller communities within the Uintah and Ouray Indian Reservation. Increase incidences of trespass and potential disturbance of cultural sites and burial locations could also affect the quality of life on the reservation. However, the project would provide additional employment and income opportunities for tribal members and non-tribal members. No major impacts would occur to the larger communities in the area, such as Vernal and Roosevelt, Utah, nor to small communities farther from the project area.

Air Quality

During the commercial phase, TSP concentrations would exceed the 24-hour and annual significance criteria. SO₂ impacts are expected to be well within Class II increments and NAAQS. No adverse visibility impacts are anticipated. Acid deposition estimates and nitrogen deposition rates would be considered insignificant. Increased SO₂ and NO₂ would be within PSD increments and NAAQS.

Soils and Vegetation

During the commercial phase, project activities would disturb 18,310 acres for the life of the project, with 40 acres removed for the plant site and access roads. About 140 acres would be removed from land use production at any one time. No significant impacts would occur to soils or vegetation and all land disturbance would be reclaimed through the use of the measures outlined in Appendix 2.

Threatened, endangered, or sensitive plant species could occur within the project area; therefore, the area must be surveyed and cleared, as prescribed by law before any surface disturbance began.

Wildlife

The project would significantly affect about 34 percent of 54,100-acres of crucial elk summer range (herd unit 21). The project would also disturb 0.4 percent of the 141,148 acres of crucial summer range and 1.1 percent of the 403,008 acres of crucial winter range in deer herd unit 28A.

Sage grouse would be adversely affected during the strutting, nesting, and brooding seasons. Impacts to feral horses and regional sport fisheries would not be significant.

Impacts to total wildlife populations from vehicle/animal collisions would be insignificant. Although endangered peregrine falcons could overfly the area, no impacts are anticipated. If prairie dog colonies are found, the project area must be surveyed for black-footed ferrets.

Transportation Networks

Transporting 5,000 barrels of oil per day in addition to the work force could cause traffic flow to fall below a safe operating level and would significantly affect the condition of 47.2 miles of Seep Ridge Road. This would be significant. In addition, local funding may not be sufficient to meet increased maintenance needs.

Visual Resources

Significant long-term impacts would occur to the visual resource during the commercial phase. Landform modification, removal of vegetation, and the introduction of structures such as drill rigs, test pits, surface mining activity and other project facilities would not meet the objectives of the VRM Class IV area. About 18,310 acres would be disturbed over the life of the project. The impacts would remain until landform modifications were blended with the natural topography, and vegetation returned to similar forms, lines, colors, and textures with surrounding natural vegetation.

Wilderness

The project area would directly overlay 4,206 acres of the Winter Ridge Wilderness Study Area (WSA). Development of the lease would be constrained by the wilderness nonimpairment criteria (Section C, Appendix 2) which would likely prohibit development of that portion of the lease unless a Congressional decision is made not to designate the WSA as a wilderness. If

the Winter Ridge WSA was designated a wilderness, the portion of the Enercor project located in the WSA would likely not be developed. No other WSAs are within 10 miles of the project area. The Wildlife and Cultural Resource Protection Area of the Uintah and Ouray Indian Reservation is over 5 miles from the project area; no significant direct impacts are expected.

Recreation

Recreation demand for municipal recreation facilities in small communities, especially during the commercial phase, may cause some significant impacts. Although 18,310 acres are predicted to be disturbed over the life of the project, this acreage is not thought to be large enough to significantly affect the undeveloped recreation opportunities in the area. A significant impact could occur as a result of increased trespass on recreation lands within the Wildlife and Cultural Resource Protection Area of the Uintah and Ouray Indian Reservation.

Cultural Resources

The project would disturb 5,349 acres with high site density probability, 6,043 acres with medium site density probability, and 1,300 acres of low-site density probability, over the life of the project. Indirect impacts from unauthorized collection of artifacts would be significant, given the large work force increases.

Mineral and Paleontological Resources

No significant impacts to mineral or paleontological resources are expected to occur from exploration activities. During the pilot and commercial phases, a conflict between oil and gas activity and tar sand recovery could occur. While the tar sand mine was operating, oil and gas could not be developed where the mine and facilities were located. Oil and gas development would be delayed until after the tar sand was mined. About 880 acres of known oil shale lease areas would be significantly affected by the project.

During surface mining, the oil shale beds would be mixed with other shale, making future recovery of the oil shale impractical. This would occur only along Seep Ridge. No significant impacts would occur to the building stone resource.

As the overburden is removed, any fossils that occurred in the overburden could be destroyed or displaced. If fossils are found during premining inventory and monitoring during mining, new information would be gained about the paleontological past of the area, causing a positive effect.

Agriculture

During the commercial phase, an average of 18 AUMs of forage would be lost annually. This forage loss would amount to less than 0.1 to 2.5 percent of the total forage, which would be insignificant. No cropland would be affected by surface mining, but cropland loss is expected from population expansion. Although most land conversion would occur in existing subdivisions or on natural rangeland, about 16 acres of cropland could be converted to urban uses along the Duchesne River, Pelican Lake, and Vernal areas. This cropland would be considered insignificant based on the total cropland in the area.

BLM PREFERRED ALTERNATIVE

Conversion of the 24 leases as proposed, including mitigation discussed in Appendix 2, is the BLM preferred alternative. BLM supports this alternative because it would lead to more efficient and orderly tar sand recovery consistent with the diligent development and reasonable environmental protection objectives of the Combined Hydrocarbon Leasing Act.

Water Resources

The project would require about 0.3 acre-feet of water per year, which would be insignificant. The amount of sedimentation produced by the clearing required for the project would depend on the location of the drill pads for each well. With the use of the proper construction methods detailed in Appendix 2, no significant sedimentation impacts would occur. Since ground water in the area is mostly below the tar sand beds, no significant direct impacts would occur. Once the bitumen is removed, the remaining sand bed would have different hydrologic characteristics that could lead to a change in the flow or location of local springs and seeps.

Socioeconomics

None of the phases would cause any significant impacts to the local towns or communities. Total employment and per capita personnel income would increase by less than 1 percent in all jurisdictions in each of the phases of development. Effects on housing, public services and facilities, and social conditions in the area of influence would be insignificant.

Air Quality

Increased SO₂ and TSP concentrations would only be a fraction of the PSD increments, and total concentrations of all criteria pollutants would be within the NAAQS. Visibility impacts and acid deposition rates were predicted to be well within the significance criteria. None of the air quality impacts are expected to be significant.

Soils and Vegetation

Over the life of the project a total of 700 acres could be disturbed, with approximately 30 acres disturbed at any one time. Of that total, 195 acres of sensitive soil would be disturbed. No significant impacts would occur to soils or vegetation, and all disturbed land would be reclaimed through the use of the measures outlined in Appendix 2. Threatened, endangered, or sensitive plant species could occur within the project area; therefore, the area must be surveyed and cleared, as prescribed by law before any surface disturbance begins.

Wildlife

The project would disturb 700 acres of crucial elk winter range, which is 0.3 percent of the total in deer herd unit 21. This amount of disturbance would not be significant. Feral horses, sage grouse, and regional sport fisheries would not be significantly affected. Endangered peregrine falcons could overfly the area, but no impacts are anticipated.

Transportation Networks

Hauling the commercial product could significantly affect the condition of 4.4 miles of Winter Ridge Road and 9.5 miles of Divide Ridge Road. Local funding may not be sufficient to meet increased maintenance needs. No other roads would be significantly affected.

Visual Resources

No significant visual impacts would occur to the VRM Class IV areas that make up the project area. In situ operations would be generally compatible with the VRM objectives for the area in which operations would occur.

Wilderness

Even though all but 60 acres of the 1,080-acre Enserch project lies within the Winter Ridge WSA, the lease could still be converted to combined hydrocarbon use (Office of the Solicitor 1983). Development of the lease, however, would be constrained by the wilderness nonimpairment criteria (Section C, Appendix 2), which would likely prohibit development of this lease until such time that a Congressional decision may be made not to designate the WSA as wilderness. If the Winter Ridge WSA was designated wilderness, the Enserch lease would likely not be developed. No other WSAs would be within 10 miles of the project. The project area is over 9 miles from the Wildlife and Cultural Resource Protection Area of the Uintah and Ouray Indian Reservation; no direct impacts are anticipated.

Recreation

No significant long-term impacts would occur to the recreation resource. About 20 acres per year would be removed from use for undeveloped recreation opportunities. The project is not expected to interfere with hunting, ORV activities, or other types of opportunities in the area.

Cultural Resources

The project would disturb about 415 acres of high site density probability and about 55 acres of low site density probability over the life of the project. An important Archaic period campsite within the project area could be significantly affected. Since the site is too large to completely excavate for full data recovery, its removal from the local and regional site population would need to be assessed. Indirect impacts from unauthorized collection of artifacts would not be significant, given the small work force increases.

Mineral and Paleontological Resources

No significant impacts to mineral or paleontological resources would occur. In situ recovery would result in recovering 40 to 50 percent of the in-place oil. No oil and gas, oil shale, or other mineral development would be affected.

Agriculture

Impacts to forage production would amount to 3.4 percent of the total forage, which is insignificant. Invader plants would occupy less than 10 percent of the disturbed area and poisonous plants, less than 2 percent. These impacts would also be insignificant. The forage that could be lost through disruption of watering facilities and grazing patterns is unknown; however, the probability of this occurring is expected to be very low. No cropland would be converted to urban uses from project-related population increases and no cropland occurs in the project area.

BLM PREFERRED ALTERNATIVE

Conversion of the three leases as proposed, including mitigation discussed in Appendix 2, is the BLM preferred alternative. BLM supports this alternative because it would lead to more efficient and orderly tar sand recovery consistent with the diligent development and reasonable environmental protection objectives of the Combined Hydrocarbon Leasing Act.

Water Resources

The project would require about 0.3 acre-feet of water per year, which would be insignificant. The amount of sedimentation produced by the clearing required for the project would depend on the location of the drill pads for each well. With the use of the proper construction methods detailed in Appendix 2, no significant sedimentation impacts would occur. Since ground water in the area is mostly below the tar sand beds, no significant direct impacts would occur. Once the bitumen is removed, the remaining sand bed would have different hydrologic characteristics that could lead to a change in the flow or location of local springs and seeps.

Socioeconomics

None of the phases would cause any significant impacts to the local towns or communities. Total employment of per capita personnel income would increase by less than 1 percent in all jurisdictions in each of the phases of development. Effects on housing, public services and facilities, and social conditions in the area of influence would be insignificant.

Air Quality

Increased SO₂ and TSP concentrations would be only a fraction of the PSD increments, and total concentrations of all criteria pollutants would be within the NAAQS. Visibility impacts and acid deposition rates were predicted to be well within the significance criteria. None of the air quality impacts are expected to be significant.

Soils and Vegetation

Over the life of the project a total of 460 acres could be disturbed, with approximately 20 acres disturbed at any one time. Of that total, 325 acres of sensitive soil would be disturbed. No significant impacts would occur to soils or vegetation and all land disturbance would be reclaimed through the use of the measures outlined in Appendix 2. Threatened, endangered, or sensitive plant species would not be adversely affected since none are known to occur within the area of disturbance.

Wildlife

The project would disturb 0.2 percent of crucial elk winter range in herd unit 21 over the life of the project. This amount of disturbance would not be significant. Sage grouse would be adversely affected by harassment during the strutting, nesting, and brooding seasons. Regional sport fisheries would not be affected. The endangered peregrine falcon could overfly the area, but no impacts are anticipated.

Transportation Networks

Trucking of the product during the commercial operation phase could cause a significant impact on the condition of 55.2 miles of the Seep Ridge Road. Local funding may not be sufficient to meet increased maintenance needs. No other roads would be significantly affected.

Visual Resources

No visual impacts would occur to the VRM Class IV areas outside the foreground/midleground viewing area from Seep Ridge Road. However, significant impacts would occur within this viewing area as a result of structural changes and vegetation clearings. These impacts would remain until physical structures were removed and revegetation returned portions of the landscape to predisturbance conditions. Of the total 460 acres that would be disturbed over the life of the project, about 15 percent of the area, or 65 acres, would be significantly affected.

Wilderness

The Farleigh project area would not cross the boundary of an existing wilderness or WSA. The project would be located within 1 1/2 miles of the Winter Ridge WSA. Significant impacts resulting from sights and sounds outside the WSA could occur during all phases of the project when equipment was present and operating. Impacts would not persist once equipment was removed, since landform and vegetation modification would not be visually evident from the WSA. The project area is over 13 miles from the Wildlife and Cultural Resource Protection Area of the Uintah and Ouray Indian Reservation; no direct impacts are anticipated.

Recreation

No significant long-term impacts would occur to the recreation resource, other than to the sightseeing opportunity (see Visual Resources). About 20 acres per year would be removed from use for undeveloped recreation opportunities. The project is not expected to interfere with hunting, ORV activities, or other types of opportunities in the area.

Cultural Resources

The project would disturb about 382 acres of high site density probability and about 2 acres of low site density probability over the life of the project. Indirect impacts from unauthorized collection of artifacts could result; some sites are located less than 1/2 mile from the project area.

Mineral and Paleontological Resources

No significant impacts to mineral or paleontological resources would occur. In situ recovery would result in recovering of 40 to 50 percent of the in-place oil. No oil and gas, oil shale, or other mineral development would be significantly affected.

Agriculture

Impacts to forage production would amount to less than 0.9 percent of the available forage, which is insignificant. Invader plants would occupy less than 10 percent of the disturbed area and poisonous plants, less than 2 percent. These impacts would also be insignificant. The forage that could be lost through disruption of watering facilities and grazing patterns is unknown; however, the probability of this occurring is expected to be very low. No cropland would be converted to urban uses from project-related population increases and no cropland occurs in the project area itself.

BLM PREFERRED ALTERNATIVE

Conversion of the lease as proposed, including mitigation discussed in Appendix 2, is the BLM preferred alternative. BLM supports this alternative because it would lead to more efficient and orderly tar sand recovery consistent with the diligent development and reasonable environmental protection objectives of the Combined Hydrocarbon Leasing Act.

Water Resources

The project could require 6 acre-feet of ground water per year, which would be insignificant. The amount of sedimentation produced by the clearing required for the project would depend on the location of the drill pads for each well. With the use of the proper construction methods detailed in Appendix 2, no significant sedimentation impacts would occur. Since ground water in the area is mostly below the tar sand beds, no significant direct impacts would occur. Once the bitumen is removed the remaining sand bed would have different hydrologic characteristics that may lead to a change in the flow or location of local springs and seeps.

Socioeconomics

Commercial development from 1992 onward could result in population increases from 1 percent to 17 percent in small communities. Project-related population growth would mainly affect infrastructure and quality of life. Inadequate housing, further crowding of local public schools, inadequate Indian health services, and additional personnel for tribal police are likely to affect smaller communities within the reservation. However, the project would provide additional employment and income opportunities for tribal members and non-tribal members. No major impacts would occur to the larger communities in the area, such as Vernal and Roosevelt, Utah, nor to small communities farther from the project area. None of the phases of the Proposed Action would significantly affect per capita personal income or employment.

Air Quality

Total TSP concentrations are expected to exceed the 24-hour and annual significance criteria during the commercial phase. No adverse visibility impacts are anticipated. Increased SO₂, NO₂, and TSP would be within PSD increments and NAAQS.

Soils and Vegetation

Over the 50-year life of the project, a total of 3,760 acres could be disturbed, with approximately 370 acres disturbed at any one time. Of that total, 613 acres of sensitive soil would be disturbed. All disturbed land would be reclaimed through the use of the measures outlined in Appendix 2. Threatened, endangered or sensitive plant species could occur on the project area; therefore, the area must be surveyed and cleared as prescribed by law before any surface disturbance begins.

Wildlife

The project would disturb about 0.4 percent of crucial mule deer winter range in herd unit 28A and 1.9 percent of crucial elk winter range in herd unit 21. These impacts would not be significant. No significant impacts would occur to sage grouse, feral horses, or regional sport fisheries.

Although peregrine falcons could overfly the area, no impacts are anticipated. If prairie dog colonies are found, the project area must be surveyed for black-footed ferrets.

Because crucial vegetation habitat disturbance would be below the significance criteria, no significant population loss is expected to occur.

Transportation Networks

Transporting the commercial product would significantly affect 8.5 miles of the Chimney Rock, 2 miles of the Willow Creek, and 4 miles of the Buck Canyon roads. Local funding may not be sufficient to meet increased maintenance need. The trips would also significantly affect State Highway 88, County Road 264, and U.S. Highway 40 because of an increased rate of deterioration of the paved surface. No other roads would be significantly affected.

Visual Resources

No significant impacts to visual resources would occur from this project. In situ operations were determined to be generally compatible with the VRM objectives for the project area.

Wilderness

The project would not cross the boundary of any existing wilderness or WSA. Portions of the Winter Range WSA would be within 1 mile of the project area, and sights and sounds from the project could be significant through all the project phases. Landform and vegetation changes would be evident beyond the project life. Also, the Wildlife and Cultural Resources Protection Areas of the Uintah and Ouray Indian Reservation is adjacent to the project area. Sights and sounds from the project area and trespass by workers and project visitors is expected to be significant.

Recreation

Population increases during the commercial phase could cause significant impacts. During peak production, 670 people would not affect most communities but would exceed present use in Gusher and Ouray by more than 10 percent, causing municipal facilities to become overcrowded. Regionally, the population increase would be less than 2 percent and have little impact on recreation facilities or opportunities. Significant impacts from increased trespass could occur on the Wildlife and Cultural Resource Protection of the Uintah and Ouray Indian Reservation.

Cultural Resources

The project would disturb about 1,863 acres with high site density probability and about 1,147 acres with medium site density probability over the life of the project. Indirect impacts from unauthorized collection of artifacts would not be significant.

Mineral and Paleontological Resources

No significant impacts to mineral or paleontological resources would occur. No oil and gas, oil shale, or other mineral development would be significantly affected.

Agriculture

Impacts to forage would amount to about 4.2 percent of the Agency Draw pasture, which is insignificant. About 7.3 percent of the total forage in the Horse Point allotment would be affected, which is significant. Invader plants would occupy less than 10 percent of the disturbed area and poisonous plants, less than 2 percent. No cropland occurs in the project area itself; however, about 87 acres of cropland would be converted to homesites in Vernal, Roosevelt-Ballard, and Fort Duchesne. This impact is insignificant.

BLM PREFERRED ALTERNATIVE

Conversion of the two leases as proposed, including mitigation discussed in Appendix 2, is the BLM preferred alternative. BLM supports this alternative because it would lead to more efficient and orderly tar sand recovery consistent with the diligent development and reasonable environmental protection objectives of the Combined Hydrocarbon Leasing Act.

PROPOSED ACTION

Water Resources

Mine construction, overburden and topsoil stockpiling, road construction, and facility construction could affect surface water on the project site during the pilot and commercial phases. With the use of the various required mitigation measures outlined in Appendix 2, impacts to water quality would be insignificant. Also, since the disturbance would occur on the upland plateaus, changes in sediment levels for streams outside the project area would be insignificant. As the surface mine is opened, some shallow ground water zones may be interrupted, affecting an undetermined number of springs and seeps. Impacts to ground water flow and quality near the project site would probably cause permanent changes in the flow and quality of an undetermined number of springs and seeps. The project would require about 13 acre-feet annually from the Vernal water supply during the pilot phase, which would be insignificant. During commercial operation, 11,000 acre-feet per year from the White River and an additional 3,500 acre-feet would be needed to accommodate population increases. This would further increase water use on the Colorado River system but would not produce significant changes in salinity. Impacts to the two public water reserves would be significant. Protection of these would require no mining in areas upstream from the two public water reserves.

Socioeconomics

The pilot phase (1991-1995) could result in population increases of slightly under 10 percent in Ouray and other small communities. Project-related population growth would mainly affect infrastructure and quality of life.

Commercial development from 1998 onward would cause more population growth than the pilot phase, particularly during the construction period (1998-1999). Increases in the small communities could vary from 12 percent to more than 100 percent, while Vernal and Roosevelt-Ballard would grow by 19 percent and 28 percent, respectively. Vernal, and the Roosevelt-Ballard areas would experience a temporary shortfall in most public services and facilities. Smaller communities such as Fort Duchesne, Ouray, Gusher, and Randlett would need more housing; expanded water and sewer systems; and increased health services, police force, classrooms, and other public facilities and services.

A significant increase in migration of Utes and other Indians to the Uintah and Ouray Indian Reservation could occur. The quality of life in both affected communities would decrease on a temporary basis. However, commercial construction would have a positive effect by raising employment opportunities among Northern Utes and other non-tribal Indians by more than 20 percent, and operation would cause an employment increase of 4 percent.

Impacts during commercial development would also be significant but to a lesser degree than commercial construction.

Air Quality

During the commercial phase, all TSP and annual NO₂ significance criteria would be exceeded. Increased SO₂ would be within PSD increments and NAAQS. The air quality impacts to Class II areas of Colorado and the Uintah and Ouray Indian Reservation are not expected to exceed any PSD Class II increments. No significant air quality impacts would be anticipated to the Colorado Category I areas of Dinosaur and Colorado National Monuments. Impacts to Arches National Park would be within the Class I increment limitation. No adverse visibility impacts would be expected. Acidic sulfur deposition impacts to Colorado may be insignificant, while nitrogen deposition impacts may be significant.

Soils and Vegetation

Over the life of the project a total of 8,360 acres would be disturbed with 40 acres removed for the plant site and about 1,600 acres disturbed or in some phase of reclamation at any one time. Of that total, 2,304 acres of sensitive soil would be disturbed. All disturbed land would be reclaimed through the use of the measures outlined in Appendix 2. Threatened, endangered, or sensitive plant species could occur on the project area, therefore, the area would need to be surveyed and cleared as prescribed by law before any surface disturbance began.

Wildlife

During the commercial phase, the project would disturb 6.1 percent, or 8,360 acres, of crucial mule deer summer range and 15.4 percent of crucial mule deer fawning habitat in herd unit 28A. The project would also disturb 15.4 percent of crucial elk summer and calving ranges, and 1.3 percent of crucial elk winter range in herd unit 21. Impacts to mule deer fawning habitat and elk summer and calving ranges would be significant.

Poaching, wanton killing, and illegal hunting could increase on the project area and Uintah and Ouray Indian Reservation. Legal hunting and fishing would also increase. Regional sport fisheries would be indirectly affected because of the increased demand for fishing permits and the cost of increasing stocking levels.

Impacts to total wildlife populations from vehicle/animal collisions would be insignificant.

If Mobil purchased 11,000 acre-feet of water from the White River Dam Project, this amount of removal would not adversely affect the endangered fish species (Colorado squawfish, humpback chub, bonytail chub) in the White River because of agreed upon conservation measures detailed in the Section, 7 Biological Opinion from the Fish and Wildlife Service and the signed Fish and Wildlife Mitigation Plan for that project.

Transportation Networks

Transporting the commercial product would significantly affect 2.6 miles of the Divide Ridge and 59.6 miles of the Seep Ridge roads, State Highway 88, County Road 264, and U.S. Highway 40. About 1,485 vehicle trips per day would be needed to haul workers and equipment to the project site. The increased

traffic volume would cause traffic flow to fall below a safe operating level. After the construction work force leveled in the year 2002, the Divide Ridge and Seep Ridge roads would still have auto and truck traffic flow over safe operating levels because production of 80,000 tons of tar sand over 15 years would represent 941 truck trips per day. Local funding may not be sufficient to meet increased maintenance needs.

Visual Resources

Significant impacts would occur to the visual resource during all three phases. Landform modification, removal of vegetation, and the introduction of structures such as drill rigs, test pits, surface mining activity and other project facilities would not meet the VRM Class objectives of the project area. About 3,340 acres of VRM Class II areas and 5,020 acres of VRM Class III areas would be disturbed over the life of the project. Impacts would remain until landform modifications were blended with the natural topography, and vegetation returned to similar forms, colors, and textures with surrounding natural vegetation.

Wilderness

The project area would directly overlay 404 acres of the Winter Ridge Wilderness Study Area (WSA). Development of that lease would be constrained by the nonimpairment criteria which would likely prohibit development of that portion of the lease in the WSA, unless a Congressional decision is made not to designate Wilderness. If the Winter Ridge WSA was designated as a wilderness, the Mobil project located on the WSA would likely not be developed. Flume Canyon WSA, 7 miles from the project area, would not be affected because of the intervening topography. The Wildlife and Cultural Resource Protection Area of the Uintah and Ouray Indian Reservation would be over 5 miles from the project; no significant direct impacts are anticipated.

Recreation

During the commercial phase, increased population growth within the region would be significant, especially for the communities of Gusher and Ouray. Because of this increase, significant demands on recreation facilities and opportunities of all types would occur. In addition, impacts would be significant at Dinosaur National Monument, Ashley National Forest, and state parks and other use areas during construction (1 to 2 years).

About 1,640 acres would be disturbed at one time; thus the land would be lost to many recreational pursuits.

Visual impacts would be evident to the sightseer as viewed from Seep Ridge Road, especially in areas of high scenic quality along the edge of the Book Cliffs. This would be a significant impact to the western edge of the Grand Valley overlook Corridor.

Population growth could also have unquantifiable, significant impacts on the Wildlife and Cultural Resource Protection Area of the Uintah and Ouray Indian Reservation because of increased trespass and increased demand for recreation experiences by new residents of the reservation. Positive impacts would occur to Bottle Hollow resort.

Cultural Resources

The project would disturb about 1,773 acres with high site density probability and about 1,397 acres with medium site density probability over the life of the project. Impacts to the PR Spring C.C.C. Camp site from unauthorized collection of artifacts or site disturbance would be significant, given the large work force increases.

Mineral and Paleontological Resources

No significant impacts to mineral or paleontological resources are expected to occur from exploration activities. During the pilot and commercial phases, a conflict between oil and gas activity and tar sand recovery could occur. While the tar sand mine was operating, oil and gas could not be developed where the mine and facilities were located. Oil and gas development would be delayed until after the tar sand was mined. No conflicts with oil shale or other mineral development would occur.

As the overburden was removed, any fossils occurring in the overburden could be destroyed or displaced from their depositional setting. If any fossils were found during predisturbance inventory and monitoring during mining, new information would be gained about the paleontological past of the area, causing a positive effect.

Agriculture

Impacts to forage production would amount to 7.4 to 18.3 percent of the total forage, which would be significant to ranch operations within the area. No cropland would be affected by surface mining, but cropland loss would be expected from population expansion. Although most land conversion would occur in existing subdivisions or on natural rangeland, about 148 acres of cropland could be converted to urban uses along the Duchesne River, Pelican Lake, and Vernal areas. This would be an insignificant impact on the total cropland in the area.

NO-ACTION ALTERNATIVE

The No-Action Alternative would disturb about 6,440 acres of state land over a 22 1/2-year project life. No federally managed land would be affected by the alternative, but impacts would be similar to those identified for the Proposed Action.

- Because less area would be disturbed, fewer springs and seeps would be affected. The two public water reserves could still be adversely affected from surface mining upstream.
- Planning for potential socioeconomic impacts would have to begin earlier because of the shorter project life.
- The Winter Ridge WSA would not be directly affected.
- No cultural resource surveys have been conducted on state land; therefore, the applicant would have to comply with the Utah Antiquities Act of 1973, as amended, before any disturbance occurred.

- Impacts to Soils and Vegetation, Wildlife, and Grazing would be the same as the Proposed Action except for magnitude.
- Impacts to Air Quality, Transportation Networks, Visual Resources, Recreation, Mineral and Paleontological Resources, and Cropland would be the same as identified for the Proposed Action.

BLM PREFERRED ALTERNATIVE

Conversion of the leases as proposed, including mitigation discussed in Appendix 2, is the BLM preferred alternative. BLM supports this alternative because it would lead to more efficient and orderly tar sand recovery consistent with the diligent development and reasonable environmental protection objectives of the Combined Hydrocarbon Leasing Act.

Water Resources

The project would require about 0.3 acre-feet of water per year, which would be insignificant. The amount of sedimentation produced by the clearing required for the project would depend on the location of the drill pads for each well. With the use of the proper construction methods detailed in Appendix 2, no significant sedimentation impacts would occur. Since ground water in the area is mostly below the tar sand beds, no significant direct impacts would occur. Once the bitumen was removed, the remaining sand bed would have different hydrologic characteristics that could lead to a change in the flow or location of local springs and seeps.

Socioeconomics

None of the phases would cause any significant impacts to the local towns or communities. Total employment and per capita personnel income would increase by less than 1 percent in all jurisdictions in each of the phases of development. Effects on housing, public services and facilities, and social conditions in the area of influence would be insignificant.

Air Quality

Increased SO₂ and TSP concentrations would only be a fraction of the PSD increments, and total concentrations of all criteria pollutants would be within the NAAQS. Visibility impacts and acid deposition rates were predicted to be well within the significance criteria. None of the air quality impacts are expected to be significant.

Soils and Vegetation

All land disturbance would be reclaimed by following the guidelines presented in Appendix 2. Over the life of the project a total of 45 acres could be disturbed, with approximately 20 acres disturbed at any one time. Of that total, 12 acres of sensitive soil would be disturbed. No significant impacts would occur to soils or vegetation and all disturbed land would be reclaimed through the use of the measures outlined in Appendix 2. Threatened, endangered, or sensitive plant species would not be adversely affected since none are known to occur within the area of disturbance.

Wildlife

The project would disturb an estimated 0.01 percent of the 141,148 acres of crucial mule deer summer range in herd unit 28A and less than 1 percent of crucial fawning habitat, crucial elk calving habitat, and crucial elk summer range. Impacts to summering mule deer and elk would be much greater than the acres disturbed would indicate, because summer range is critical to the Book Cliffs deer and elk herds. Sage grouse, blue grouse, and regional sport fisheries would not be adversely affected. Endangered peregrine falcons could overfly the project, but no impacts are anticipated.

Transportation Networks

Hauling the commercial product could significantly affect 3.2 miles of Divide Ridge Road. Local funding may not be sufficient to meet increased maintenance needs. No other roads would be significantly affected.

Visual Resources

Significant impacts would occur because in situ operations would not be generally compatible with the VRM Class II objectives for the project area. Structural and vegetation changes would create dominant features in the landscape as viewed by the casual observer. Impacts would persist for the life of the project and continue until revegetation was completed.

Wilderness

The Thompson project area would not cross the boundary of an existing wilderness or WSA. The project would be located within 6 miles of the Winter Ridge WSA and 9 miles from the Flume Canyon WSA; no significant impacts are anticipated. The project area would be 15 miles from the Wildlife and Cultural Resource Protection Area of the Uintah and Ouray Indian Reservation; no direct impacts would occur.

Recreation

No significant long-term impacts would occur to the recreation resource, other than to the sightseeing opportunity. About 20 acres per year would be removed from use for undeveloped recreation opportunities. The project is not expected to interfere with hunting, ORV activities, or other types of opportunities in the area.

Cultural Resources

The project would disturb about 38 acres of low site density probability. One potentially significant site, a Fremont petroglyph, occurs within the project area. Indirect impacts from unauthorized collection of artifacts would not be significant, given the small work force increases.

Mineral and Paleontological Resources

No significant impacts to mineral or paleontological resources would occur. In situ recovery would result in recovering of 40 to 50 percent of the in-place oil. No oil and gas, oil shale, or other mineral development would be affected.

Agriculture

Impacts to forage production would amount to less than 0.6 percent of the total forage, which would be insignificant. The forage that could be lost through disruption of watering facilities and grazing patterns is unknown; however, the probability of this occurring is expected to be low. Little or no cropland would be converted to urban uses from project-related population increases; no cropland occurs in the project area itself.

BLM PREFERRED ALTERNATIVE

Conversion of the lease as proposed, including mitigation discussed in Appendix 2, is the BLM preferred alternative. BLM supports this alternative because it would lead to more efficient and orderly tar sand recovery consistent with the diligent development and reasonable environmental protection objectives of the Combined Hydrocarbon Leasing Act.

SECTION 1
REVISIONS AND CORRECTIONS



SECTION 1
REVISIONS AND CORRECTIONS

The following revisions and corrections have been made based on comments received on the P R Spring Combined Hydrocarbon Lease Conversion Draft Environmental Impact Statement.

PAGE	COL.	PARA.	LINE	IS:	SHOULD BE:
xi	List of Preparers			N/A	ADD: Katherine T. Florez, Editorial Assistant: Word Processing and Text Production
A-2	2	"Map A-1" Entry		Project Areas (to be included with Summary)	Project Areas
A-5	2	3	1	The BLM preferred alternatives are given for each individual project in the individual project summaries (Section B).	There are ten separate decisions for each of the ten projects as to whether or not existing oil and gas leases should be converted into combined hydrocarbon leases. The BLM preferred alternatives are to convert existing oil and gas leases into combined hydrocarbon leases for each of the ten separate projects. (Refer to Section B for the preferred alternatives for each project.)
A-9	Table A-1	Note		bpd = barrels per year.	bpd = barrels per day
A-19	Figure A-1	Caption		Forward and Reverse Combustion Recovery Process	Forward Combustion Recovery Process
A-20	Figure A-1 (Cont.)	Caption		Forward and Reverse Combustion Recovery Process	Reverse Combustion Recovery Process
A-27	Figure A-5	Legend		understory vegetation) Reclaimed (recovery of	Reclaimed (recovery of understory vegetation)

A-28 1 1 5 N/A ADD: (This assumption is a worst-case analysis because it involves analysis of proposed development within the area presently proposed as a wilderness study area (WSA). However, it is recognized that until Congress takes action, BLM is required to manage the Winter Ridge WSAs under the nonimpairment criteria. Thus, WSA lands are managed so as not to impair their suitability for preservation as wilderness, subject to the exercise of certain valid existing rights. For WSA lands with oil and gas leases eligible for conversion to combined hydrocarbon leases, the Office of the Solicitor (USDI 1983) has determined that lease conversion within WSAs does not violate the nonimpairment management standard. However, BLM must determine whether each specific action proposed by a lessee would meet the requirements of the nonimpairment criteria and ensure that no permanent, irreversible changes would occur that would affect the suitability of the Winter Ridge WSA for wilderness designation. Any oil and gas leases converted to combined hydrocarbon leases within the Winter Ridge WSA would contain the nonimpairment management stipulation. The nonimpairment stipulation would remain in effect pending a final determination of wilderness designation by Congress.

A-34	2	1	11	Carbon monoxide (CO) and ozone (O ₃) were measured at the U-a/U-b site and were within the NAAQS, although ozone levels were relatively high for a rural area.	Carbon monoxide concentrations at U-a/U-b were up to 3,000 micrograms per cubic meter (ug/m ³) for 1-hour values and 1,800 ug/m ³ for 8-hour values. These are well within the NAAQS of 40,000 and 10,000 ug/m ³ , respectively. One-hour ozone concentrations at U-a/U-b up to 160 ug/m ³ were measured, compared to the NAAQS of 240 ug/m ³ .
A-34	2	1	14	The high ozone concentrations probably resulted from...	The relatively high ozone concentrations may have resulted from...
A-42	1	6	4	...(Karpowitz 1984).	...(Stapley and others 1971; Coles and Pederson 1967).
A-51	2	2	4	...project were...	...project would be...

PAGE	COL.	PARA.	LINE	IS:	SHOULD BE:
A-51	2	2	7	plume/sky, plume/terrain, or sky/terrain contrast were greater than 0.10 or less than 0.10; or	the absolute value of the plume/sky or plume/terrain, or the change in sky/terrain, contrast was greater than 0.10; or
B-25		Table 6		N/A	DELETE: the entire Transportation Networks line.
B-25		Table B-6 Footnote		Air Quality and Wilderness would have no...	Air Quality, Transportation, and Wilderness would have no...
B-83	2	1	4	Level I visibility screening could be significant, but no adverse visual impacts are anticipated for level 2 screening.	No adverse visibility impacts are anticipated.
B-93	1	4	1	During peak construction (1968),...	During peak construction (1986),...
B-93	1	4	3	...297 workers...	...202 workers...
B-93	1	6	3	...for 3 days...	...for 4 days...
B-93	2	6	3	...297 permanent employees...	...202 permanent employees...
B-104	1	4	8	...would be disturbed.	...would be disturbed over the life of the project.
B-104	1	4	9	N/A	<u>ADD:</u> However, it should be kept in mind that the 34 percent disturbance would be spread over 100 years and would involve not more than 80 acres per year being out of production.
B-121	1	4	3	... <u>in situ</u> mining...	... <u>in situ</u> development...
B-139	1	4	2	... <u>in situ</u> mining...	... <u>in situ</u> development...
B-153	1	3	3	Level I visibility screening could be significant, but no adverse visual impacts are anticipated for level 2 screening.	No adverse visibility impacts are anticipated.

PAGE	COL.	PARA.	LINE	IS:	SHOULD BE:
B-155	1	4	2	... <u>in situ</u> mining...	... <u>in situ</u> development...
B-157	Commercial		1	16,000	16,000*
B-158	Table B-39			N/A	ADD Footnote: * 16,000 bbl/day under the commercial operation phase is the maximum proposed oil production. Based on this figure, the impact analysis sets forth a worst-case scenario. Actual production and resulting impacts would probably be less.
B-160	2	1	8	...simultaneously, 16,000 barrels of oil...	...simultaneously, a maximum of 16,000 barrels of oil...
B-181	2	3	11	No adverse visual impacts would be expected for level 2 recovery.	No adverse visibility impacts would be expected.
B-193	1	Partial	5	N/A	ADD: regulations.
B-195	Map Caption			Map B-10 Thompson Project	Map B-11 Thompson Project <u>RELOCATE</u> map to p. B-229
B-199	2	3	7	N/A	ADD: A more recent estimate (Bureau of Reclamation 1985) indicates that 83,000 acre-feet per year could increase salinity by as much as 8.9 milligrams per liter, which means that the 11,000 acre-feet could increase salinity by 1.2 milligrams per liter. However,...
B-219	1	3			<u>MOVE</u> entire paragraph up so it appears under the Wildlife heading.
B-227	1	4	2	... <u>in situ</u> mining...	... <u>in situ</u> development...
B-229	Map Caption			Map B-11 Mobil Project-No Action Alternative	Map B-10 Mobil Project-No Action Alternative <u>RELOCATE</u> map to p. B-195

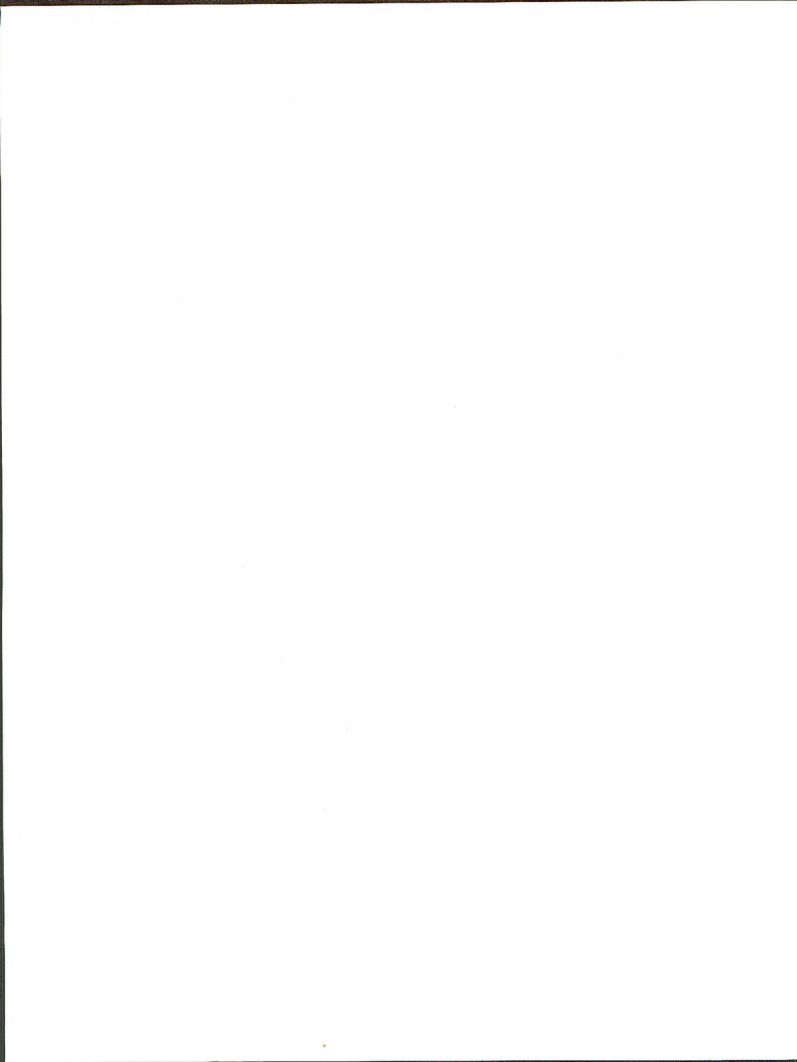
PAGE	COL.	PARA.	LINE	IS:	SHOULD BE:
C-11	2	1	3	...Appendix 10...	...Appendix 5...
C-11	2	7	3	...From June 1 to October 1 and again from October 20 to May 10.	...From June 1 to May 10.
C-12	1	7	N/A		<u>ADD:</u> 9. The lessee/operator is given notice that the area has been identified as the primary migration path of deer from summer range to winter range (October 1 to October 20). <u>RENUMBER</u> succeeding paragraphs.
C-18	2	1	5	N/A	<u>ADD:</u> The Bureau of Air Quality would require collection of on-site meteorological data for at least one year before issuing a PSD permit.
C-18	2	5	N/A		<u>ADD:</u> 8. The UDEH, Bureau of Water Quality, has responsibility for managing the state's Underground Injection Control (UIC) program. Within the scope of their authority, they can issue permits designed to assure protection of underground sources of drinking water from contamination.
C-18	2	7	4	...would be restored to...	...would be reclaimed to...
C-19	1	Partial	3	...and restoration guidelines...	...and reclamation guidelines...
C-19	1	2	5	(2) expertise to direct restoration...	(2) expertise to direct reclamation...
C-19	1	2	8	General erosion control and restoration...	General erosion control and reclamation...

PAGE	COL.	PARA.	LINE	IS:	SHOULD BE:
C-19	1	3	13	...for use in restoration or...	for use in reclamation or...
C-19	2	Partial	15	...and the area restored...	...and the area reclaimed...
C-19	2	Partial	17	Restoration, including...	Reclamation, including...
C-33	2	4	N/A		<u>ADD:</u> Wildlife An employee education plan should be established to make project personnel aware of wildlife values, sensitivity, and laws, and knowledgeable of the Utah Division of Wildlife Resources' "Help Stop Poaching" program, in order to help minimize harassment and illegal killing of wildlife.
C-39	2	Partial	2	N/A	<u>ADD:</u> If there were no elevated terrain features near the proposed projects, other stability conditions were also used.
C-41	2	Partial	1	project on threatend or endangered species.	project on threatened or endangered species.
C-69	2	9	N/A		<u>ADD:</u> Coles, F.H., J.C. Pederson. 1967. <u>Utah big game range inventory.</u> Utah State Department of Fish and Game. Pub. No. 67-1: 71-86. Salt Lake City. c
C-71	1	3	N/A		<u>DELETE:</u> Karpowitz, J. 1984. <u>Book Cliffs big game inventory and productivity study.</u> Publication 10-84. Utah Division of Wildlife Resources: Vernal. a

PAGE	COL.	PARA.	LINE	IS:	SHOULD BE:
C-72	1	9		N/A	ADD: Stapley, H.D., J.W. Bates, A. Boss, F.H. Coles, C.L. Huff, K. Nelson, and R. Nielson. 1971. <u>Utah big game investigations and management recommendations</u> . Utah Division of Wildlife Resources. Pub. No. 71-4. Salt Lake City. c
C-75		Heading		ACRONYMS AND ABBREBIATIONS	ACRONYMS AND ABBREVIATIONS
C-77		Heading		ACRONYMS AND ABBREBIATIONS	ACRONYMS AND ABBREVIATIONS
C-82	1	6		CAIRNS - Small mounds of rocks made by prehistoric peoples. Although the exact function is unknown, historic tribes often used cairns as landmarks or hunting blinds.	CAIRN - A mound of stones erected as a landmark or memorial.

SECTION 2

CONSULTATION AND COORDINATION



The Bureau of Land Management (BLM) consulted with many government agencies, private organizations, and individuals during the development of the draft and final environmental impact statements (EISs). Private citizens, organizations, and other government agencies were involved at two stages: the scoping process and the draft EIS review.

The scoping process consisted of agency meetings, mailouts to solicit written comments from the public, and informative conversations with interested parties within the affected area. Project information and information on the scoping process were published in the Federal Register on April 27, 1984. (See the draft EIS, Appendix 1, Consultation and Coordination, for a discussion of scoping concerns and questions.)

The draft EIS review process began in May 1985. A public hearing was held in Vernal, Utah, on June 19, 1985, to allow interested citizens and groups to publicly express their comments on the adequacy of the draft EIS. A total of 14 people attended this hearing. One individual testified and subsequently restated his concerns in a comment letter. Written comments were solicited during a 60-day public review period (May 20, 1985, to July 19, 1985).

BLM considered all written comments and the oral testimony from the public hearing in preparing this final EIS. Responses to comments are presented later in this section.

Federal decisions on the synfuel project conversion applications will not be made until at least 30 days after the Environmental Protection Agency (EPA) Final EIS Notice of Availability has appeared in the Federal Register. During that 30-day period, written comments on the final EIS may be submitted to be considered in the decision-making process.

Persons and groups from whom written comments were received are listed on Table 2-1. Following this listing is a copy of all comment letters received. Responses to the comments appear after each comment letter. Copies of the complete public hearing transcript and attendance list may be reviewed by the public at BLM offices in Salt Lake City and Vernal, Utah.

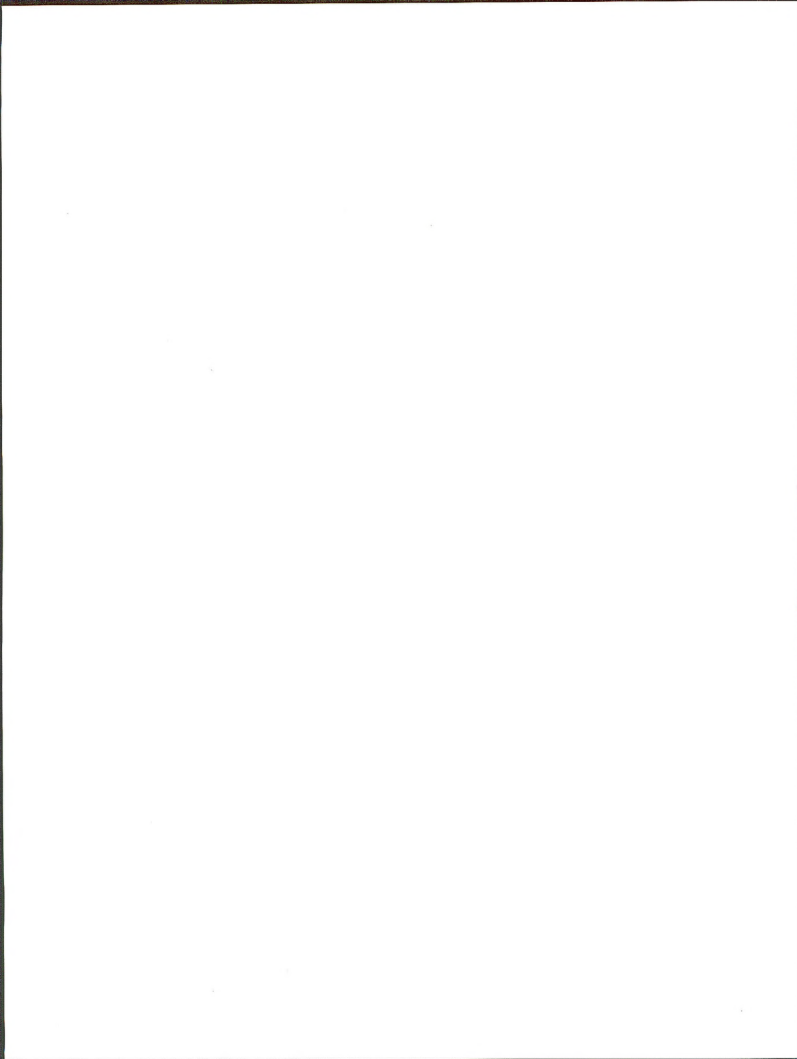


TABLE 2-1
COMMENT LETTERS

REFERENCE NUMBER	SOURCE	LOCATION
1	Utah Division of State History	Salt Lake City, UT
2	U.S. Department of Housing and Urban Development, Region 8	Denver, CO
3	U.S. Department of the Interior, Bureau of Reclamation, Upper Colorado Regional Office	Salt Lake City, UT
4	William C. Kirkwood Oil and Gas Exploration and Production	Casper, WY
5	U.S. Department of the Interior, Bureau of Mines, Intermountain Field Operations Center	Denver, CO
6	Delta H Engineering, Ltd.	Santa Fe, NM
7	Thomas J. Messenger	Arlington, VA
8	Rocky Mountain Oil and Gas Association, Inc.	Denver, CO
9	Sierra Club Legal Defense Fund, Inc.	Denver, CO
10	Governor, State of Utah	Salt Lake City, UT
11	Enercor	Salt Lake City, UT
12	U.S. Environmental Protection Agency, Region 8	Denver, CO
13	U.S. Soil Conservation Service	Salt Lake City, UT
14	U.S. Department of the Interior, National Park Service, Rocky Mountain Regional Office	Denver, CO
15	U.S. Department of the Interior, Geological Survey	Reston, VA
16	U.S. Department of the Interior, Bureau of Indian Affairs	Phoenix, AZ
17	Clay Johnson	Jensen, UT



NORMAN H. BANCARTER
GOVERNOR



STATE OF UTAH
DEPARTMENT OF COMMUNITY AND
ECONOMIC DEVELOPMENT

Division of
State History
(UTAH STATE HISTORICAL SOCIETY)

MELVINT SMITH DIRECTOR
300 RIO GRANDE
SALT LAKE CITY, UTAH 84101-1182
TELEPHONE 801 / 532-5755

June 4, 1985

Robert E. Pizel
Bureau of Land Management
Division of EIS Services
555 Zang Street, First Floor East
Denver, Colorado 80228

RE: Draft Environmental Impact Statement, PR Springs Combined
Hydrocarbon Lease Conversion

In Reply Please Refer to Case No. H076

Dear Mr. Pizel:

1-1 The Utah Preservation Office has received the draft EIS for the PR Springs Combined Hydrocarbon Lease. After review of the document, the required measures designed to reduce impacts from cultural resources looks complete and comprehensive concerning information about cultural resources in the project area. When case specific elements are developed from this EIS, our office would be glad to assist the federal agency and applicants in meeting requirements of the 1966 Historic Preservation Act.

Since no formal consultation request concerning eligibility, effect or mitigation as outlined by 36 CFR 800 was indicated by you, this letter represents a response for information concerning location of cultural resources. If you have any questions or concerns, please contact me at 533-7039.

Sincerely,

James L. Dykman
Cultural Resource Advisor
Office of State Historic
Preservation Officer

JLD:jrc:H076/1733V

Board of State History: Douglas D. Alder • Thomas B. Alexander • Leonard J. Arrington • Philip A. Bullen • J. Edon Dorman
Hugh C. Garner • Dean L. May • William D. Owens • Amy Allen Price

Response to Comment Letter 1

1-1 Thank you for providing this information. Your interest in the P R
Spring projects is appreciated.



U.S. Department of Housing and Urban Development
Denver Regional Office, Region VIII
Executive Tower
1405 Curtis Street
Denver, Colorado 80202

June 21, 1985

Mr. Robert E. Pizel
Division of EIS Services
Bureau of Land Management
555 Zang Street, First Floor East
Denver, Colorado 80228

Dear Mr. Pizel:

This is in response to your request for comments on the Draft Environmental Impact Statement (DEIS) for the PR Spring Combined Hydrocarbon Lease Conversion, affecting the Uintah and Ouray Indian Reservations and the counties of Carbon, Duchesne, Grand, and Uintah, in Utah.

Your DEIS has been reviewed with consideration for the areas of responsibility assigned to the U. S. Department of Housing and Urban Development (HUD). This review considered the proposal's compatibility with local and regional comprehensive planning and impacts on communities.

2-1 We note that the Enercor, Kirkwood and Mobil projects could have direct significant impacts on communities, such as Gusher and Ouray. Also, the proposed projects, along with other cumulative energy activities identified, could have indirect impacts on infrastructure and services provided in Vernal, Utah. In this regard, HUD would encourage mitigation measures to minimize adverse effects on housing and community facilities and services in these communities. Within these parameters, we find this document adequate for our purposes.

If you have any questions regarding these comments, please contact Mr. Howard Kutzer, Regional Environmental Officer, or Mr. Myron Eckberg, Environmental Specialist, at 844-3102.

Sincerely,

Robert J. Matuschek
Director
Office of Community
Planning and Development

Response to Comment Letter 2

- 2-1 Please refer to the draft EIS, page C-18, item 1 in the State of Utah section, which requires each applicant to submit a financial impact statement and plan to alleviate socioeconomic impacts.



United States Department of the Interior

BUREAU OF RECLAMATION
UPPER COLORADO REGIONAL OFFICE
P.O. BOX 11568
SALT LAKE CITY, UTAH 84147

IN REPLY
REFER TO: UC-151
452.1

JUL 9 1985

Memorandum

To: Mr. Robert E. Pizel, Project Leader, Bureau of Land Management,
Division of EIS Services, 555 Zang Street, First Floor East,
Denver, Colorado 80228

From: ^{acting} Regional Director
Bureau of Reclamation

Subject: Review of Draft Environmental Impact Statement, P R Spring Combined
Hydrocarbon Lease Conversion (DES 85-28)

We have reviewed the subject document and submit the following comments:

1. The proposed actions would not have any significant effect on any Bureau of Reclamation projects.

3-1 2. Of the ten projects being evaluated, only one, the Mobile Project, would use a significant amount of water from the Colorado River system and potentially affect the salinity of the river. Page B-99 states that a withdrawal of 83,000 acre-feet would probably increase the average salinity of the river at Imperial Dam by less than 1 milligram per liter. We feel that this figure should be checked since our rough calculations indicate that the increase would approach 8.9 milligrams per liter. The proposed project would only use 11,000 acre-feet of water. We feel that withdrawal of this lesser amount of water would, however, result in an increase in salinity of more than 1 milligram per liter. We also concur with the later statement that withdrawal of an additional 3,500 acre-feet of water for public water supply systems would not significantly intensify the salinity impact.

Response to Comment Letter 3

3-1 Thank you for the more recent estimate of salinity increase. Based on your estimate, the project could, at worst, increase salinity by about 1.18 mg/l. The text has been revised; see Section 1 of this final EIS.

Furthermore, as stated on page B-199 of the draft EIS, right hand column, paragraph 3, "The impact of this project would be much less. Since water is fully appropriated, the 11,000 acre-feet would be purchased or leased from another water user."

WILLIAM C. KIRKWOOD



120 South Durbin — 307/265-5178
P. O. Drawer 3439 — Casper, Wyoming 82602-0439 OIL & GAS EXPLORATION & PRODUCTION

July 12, 1985

Robert E. Pizel, Project Leader
Bureau of Land Management
Division of EIS Services
555 Zang Street, First Floor East
Denver, CO 80228

RE: 1792-U-820

Dear Mr. Pizel:

Thank you for the opportunity to comment on the PR Spring Draft EIS. I would like to compliment you on the professional nature of this document and the unbiased, unemotional style in which it was prepared.

4-1

Our only comment in regard to the Kirkwood Project is that the 16,000 barrel per day figure was submitted as an "extreme maximum" figure for a worst case analysis. Thus it should be noted that the analysis in this EIS is in effect a worst case analysis, and actual production and resulting impacts will probably be significantly less.

If you have any questions or require further information, please contact us.

Sincerely,

Robert C. Montgomery
Robert C. Montgomery
Manager - Tar Sands

cc: Ron Bolander, BLM
Utah State Office

RE/jf

Response to Comment Letter 4

- 4-1 Appropriate text revisions have been made in Section 1 of this document to Table B-39 and the project description.



United States Department of the Interior

BUREAU OF MINES

P. O. BOX 25086
BUILDING 20, DENVER FEDERAL CENTER
DENVER, COLORADO 80225
Intermountain Field Operations Center

July 15, 1985

Memorandum

To: Robert E. Pixel, Project Leader, Bureau of Land Management,
Division of EIS Services, 555 Zang Street, First Floor East,
Denver, Colorado 80228

From: Chief, Intermountain Field Operations Center

Subject: Draft Environmental Impact Statement on the PR Spring Combined
Hydrocarbon Lease Conversion

The subject DEIS has been reviewed by personnel of the Bureau of Mines. Our primary interest is the avoidance or alleviation of possible adverse impacts on mineral resources or production facilities.

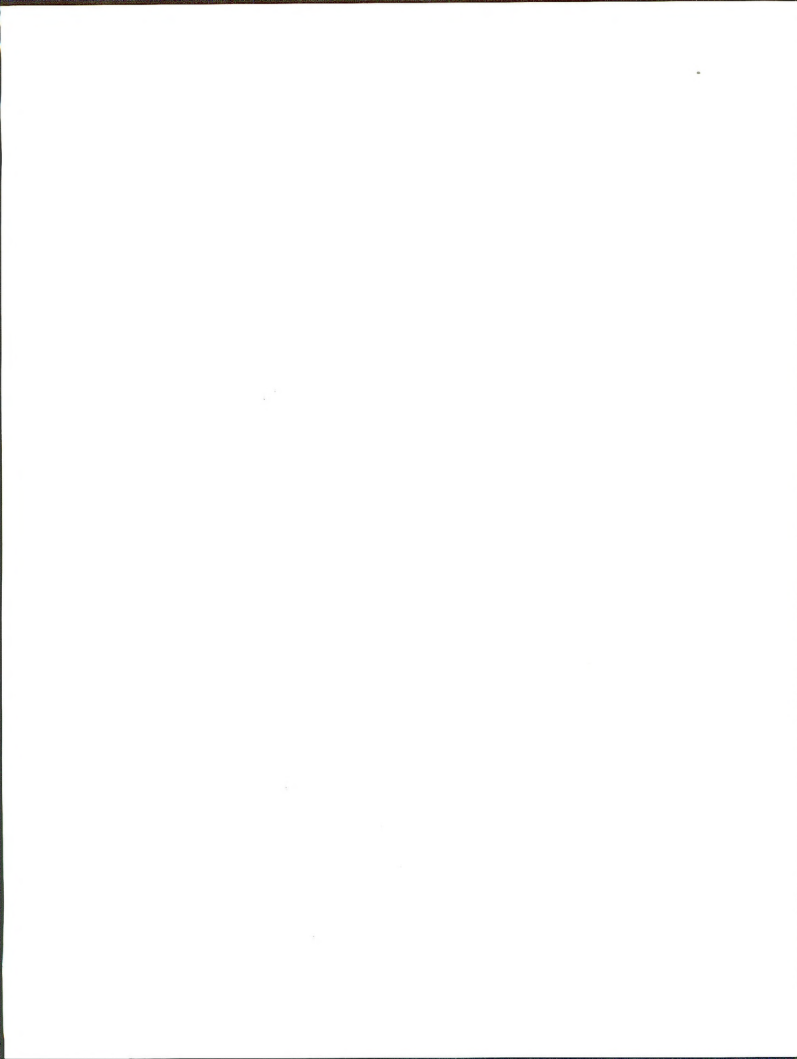
The proposed action is the conversion of ten existing oil and gas leases in the PR Spring and Hill Creek Special Tar Sand Area to combined hydrocarbon leases in accordance with the Combined Hydrocarbon Leasing Act of 1981 (the Act). Under the Act, a single lease would include all hydrocarbons in a lease area, except oil shale, coal, and gilsonite. Prior to passage of the Combined Hydrocarbon Leasing Act of 1981, there existed no legal recognized mechanism for the leasing of federally owned tar sands.

The Act assures that conflicts between production of oil and gas and production of tar sand no longer would occur because the lessee would simply arrange schedules for its own best interest. For example, the Mobil lease, described in the document, has a conflict between tar sand and oil and gas production which the company can resolve readily if the conversion takes place. Still, the legislation does not resolve all conflicts. Conflicts between lease holders of tar sands, oil shale, coal, and gilsonite will continue to occur. As described in the document, Beartooth A, Beartooth B, and Enercor leases conflict with oil shale leases. Presumably the conflicts would be resolved by mutual agreement among concerned lease holders. The document indicates, and we agree, that unresolved conflicts could adversely affect production of one or more mineral resources (p. B-84).

The document describes potential problems arising from multiple leasing and discusses methods to alleviate them (pp. B-22, B-42). We believe that the very act of converting the leases is beneficial to mineral resource development.

5-1 | We have no objection to the conversion, and suggest that future lease applicants be made aware of prior existing leases. We also believe the document would be more useful if lease conflicts were shown on the lease stipulation maps (Appendix 5). Otherwise, we have no objection to the DEIS as written.

William Cochran
William Cochran



Response to Comment Letter 5

5-1

Thank you for your interest in the P R Spring Draft EIS. There would be no conflicts between oil and gas and tar sands leasing since these leases are combined and held by one operator for each tract of land. Any conflicts with oil shale or other mineral development are covered in the narrative and are known to the lease applicants. Therefore, it was not necessary to portray any potential lease conflicts on the stipulation maps.



1520 PASO DE PERALTA

POST OFFICE BOX 203

SANTA FE, NEW MEXICO 87501

(505) 983 2594

Delta H Engineering, Ltd.

July 12, 1985

Mr. Robert E. Pizel, Project Leader
Bureau of Land Management
Division of EIS Services
555 Zang Street, First Floor East
Denver, Colorado 80228

RE: DRAFT ENVIRONMENTAL IMPACT STATEMENT (EIS)
PR SPRING COMBINED HYDROCARBON LEASE CONVERSION

Dear Mr. Pizel:

This letter follows up my previous letter of June 12, 1985 which provided general comments on the referenced draft EIS. I have since had time to read this document as well as the related Air Quality Technical Report in more detail. My comments have not changed significantly. The draft EIS indicates that the Enercor project would violate the National Ambient Air Standard (NAAQS) as well as exceed the Prevention of Significant Deterioration (PSD) 24-hour Increment for TSP (page B-99). The usefulness of TSP modeling is open to question for the following reasons.

- 6-1 • The fugitive particulate emissions estimates were based on EPA guideline documents and used factors to predict emission rates for particulate matter 30 microns and smaller. The size range of 30 to 10 microns tends to settle out in a relatively short distance from the source. The VALLEY-BID model does not provide for deposition of particulate matter and therefore overstates ambient TSP. This is confirmed on page C-39 of the draft EIS. Unfortunately there are no complex regional models which handle deposition. The Environmental Protection Agency's (EPA's) Region VIII Office currently uses an IFC model with deposition, for PSD permitting of TSP sources. While this model does not handle regional complex terrain, it does give a reasonable prediction close to the source where the major TSP problem occurs.
- 6-2 • While the NAAQS standards for TSP stated on page B-99 are correct, the EPA is considering changes. The TSP annual standard would remain as is, but the TSP 24-hour standard may be replaced by a standard for particulate matter 10 microns and smaller (PM 10). It is too early to determine if and how these regulation changes might affect the project. On the positive side, the 10 micron and smaller particulate matter comprises only half of the total esti-

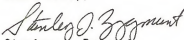
mated fugitive particulate matter. On the other hand, the PM10 standard will most likely be lower than the current 24-hour TSP standard.

- The fugitive emission estimates calculated for the Enercor. Project were based on a preliminary mine plan and used conservative "standard" control methods. Roughly 80 percent of the fugitive emissions came from dust from the access road and 15 percent came from haul and service trucks within the mine. The fugitive emission estimate calculations used control methods that were only 50 percent efficient at reducing these two major sources. As the mitigation section of the EIS points out, secondary access TSP can be significantly reduced. The emissions within the mine can also be reduced by upgrading the fugitive dust controls.

- Page C-33 states that paving seep ridge road would reduce the area to exceed NAAQS for TSP to an area near the mine. Again, the modeling does not handle deposition, or "in pit" retention which is valid for the type of pit mine proposed.

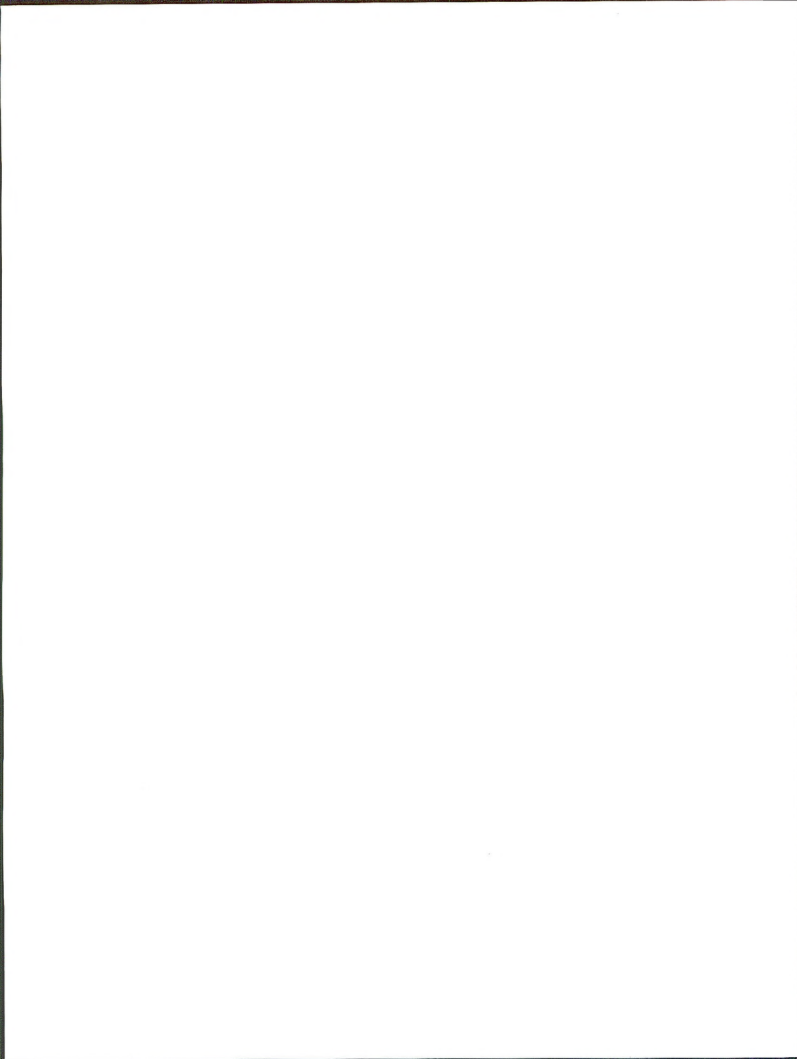
- 6-5 I understand the time and monetary restraints which resulted in the use of VALLEY-BID to model TSP. Unfortunately, there is no way to correlate between the VALLEY-BID results and the results of a model using a deposition equation. If the NAAQS TSP violations determined using VALLEY-BID for the Enercor Project are a major consideration in determining the lease conversions, I recommend that the BLM remodel to obtain accurate data. It may be more appropriate to recognize the short comings of the data and that TSP problems must be solved prior to obtaining air quality permits.

Yours truly,


Stanley J. Zygmunt
Vice President

cc: Mark Lindsey, Enercor
George Forster, Solv-Ex
File

SJZ:chs



Responses to Comment Letter 6

- 6-1 In our judgement, the TSP estimates near the sources are reasonable. We agree that, at distances farther from the sources, the TSP impacts are exaggerated because deposition is not accounted for. At these distances, a model including a deposition algorithm would be more accurate than the VALLEY-BID model used. However, as discussed on page 1-4 of the draft Air Quality Technical Report, the EIS air quality analysis was not for the purpose of issuing a PSD permit (which is what the IFC Model is used for). Therefore the analysis was done on a broad, worst-case basis as required by the National Environmental Policy Act (NEPA).
- 6-2 The PM-10 standard being considered by EPA could conceivably affect the conclusions resulting from this analysis. However, until the standard is accepted and released for use, the consequence of a possible change in the standard is supposition.
- 6-3 As stated in the draft EIS, page C-33, additional measures would reduce the TSP impact. However, these measures do not have the potential to prevent the PSD increments for TSP from being exceeded.
- 6-4 See response to comment 6-1.
- 6-5 As stated in the draft Air Quality Technical Report, pages 1-4, 5-4, and 5-5, the VALLEY-BID model is most appropriate for the broad, worst-case analysis required in the EIS by NEPA. The selection of the model was not for purposes of issuing PSD permits. The Utah Bureau of Air Quality will regulate PSD permitting procedures and requirements. See the draft EIS, page C-18, item 4. The air quality analysis for the EIS has identified TSP as a potential problem. The results of the analysis suggest that either new technology for fugitive particulate control or a scaling down of the project would be necessary in order to meet air quality standards and obtain the necessary permits.

2900 South Glebe Road, #508
Arlington, Virginia 22206
14 July 1985

Robert E. Pizel, Project Leader
Bureau of Land Management, Division of EIS Services
555 Zang Street, First Floor East
Denver, Colorado 80228

Sir:

- The analysis in the P R Spring Combined Hydrocarbon Lease Conversion DEIS shows that the proposed actions will have unacceptable environmental consequences. Because this is not the result you desire, you follow the lead of Humpty Dumpty in Through the Looking-Glass in defining words to suit your ends. ["When I use a word," said Humpty Dumpty in a rather scornful tone, "it means just what I choose it to mean, -- neither more nor less."] Thus, "reasonable protection of the environment" means "measures reasonably easy for the proponents" instead of "prevention of despoliation". The proposed actions (the BLM preferred alternative in every case) mangle the land, foul the air, use scarce water, ring the Winter Ridge WSA with heavy industry, disturb wildlife, induce a short-lived construction boom, and increase reliance on the energy industry whose vagaries are the stated cause of current high unemployment.

- I have some specific comments as well. Why do you not simply state on page A-5 under the heading "BLM PREFERRED ALTERNATIVES" that you prefer the proposed action in every case? It's true that the "ANALYSIS CONCLUSIONS" strongly suggest that, but why tease? Except for this coyness in Section A, I would conclude that you have the courage of your convictions and feel no shame in rubber stamping the proponents' plans, unlike the drafters of other DEISs (e.g. Circle Cliffs) who seem to feel the need to show an insincere regard for the land by recommending lower production levels. Also, I think you ought to include a summary of just the P R Spring STSA as well as one for the whole Uinta Basin. Additionally, I would have liked to see a list of industries included on page C-8. Further, it worries me that the companies are to provide archaeologists and paleontologists to execute or monitor surveys. Because it's simpler for the company if no cultural and paleontological resources are found, it's simpler for the archaeologists and paleontologists not to find any. When people interested in ancient Indian cultures surveyed the proposed sites for a high-level nuclear waste dump near Canyonlands National Park, they found four times as many Anasazi sites as the DOE survey. Finally, though I see the BLM is getting slicker at producing DEISs, you have some typos. Some that I've noticed are: the first paragraph of page B-193 needs an end for its last sentence, Page C-11 refers to nonexistent Appendix 10, and figures B-10 and B-11 have been interchanged.

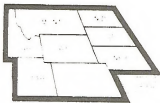
I have twice briefly visited the P R Spring STSA. It deserves more protection than the BLM preferred alternative gives it. All the lease conversions should be denied.

Sincerely,


Thomas J. Messenger

Responses to Comment Letter 7

- 7-1 Draft EIS Appendix 2, Provisions and Measures Designed to Reduce Impacts, and Appendix 5, Combined Hydrocarbon Pilot and Commercial Phase Special Lease Stipulation Maps, are designed to minimize environmental impacts and provide reasonable protection of the environment.
- 7-2 As stated in the draft EIS, significant resource impacts are analyzed and mitigation measures and stipulations identified (Appendixes 2 and 5) to avoid or minimize impacts. Wilderness characteristics and values would be protected under the "nonimpairment criteria" (in compliance with Section 603(c) of the Federal Land Policy and Management Act), as well as other resources in the project areas (also see response to comment 9-10).
- 7-3 The General Summary, BLM Preferred Alternative, has been revised in Section 1 of this final EIS to state that the preferred alternatives are to convert existing oil and gas leases into combined hydrocarbon leases for each of the ten individual projects.
- 7-4 The Utah Combined Hydrocarbon Leasing Regional Final EIS (BLM, January 1984) provides a summary of impacts in the P R Spring STSA. The Uintah Basin Synfuels Development Final EIS (BLM, February 1983) provides a regional analysis of impacts within the Uinta Basin. The P R Spring Combined Hydrocarbon Lease Conversion Draft EIS assesses impacts for ten individual, site-specific projects on a separate basis, analyzes impacts of ten No Action alternatives on a separate basis, and presents a cumulative impact analysis.
- 7-5 As indicated on page C-8 of the draft EIS, a detailed list of industries and individuals may be obtained upon request from various BLM offices. This was done purposely to minimize the size of the draft EIS.
- 7-6 Compliance with federal pollution and resource laws and regulations requires that private industry hire professional archaeologists to inventory and evaluate the cultural values in the project areas. Ultimately, of course, the professional integrity and judgement of the contracted archaeologist must be relied upon if companies are to meet federal and state compliance requirements. The professional archaeological consultant should record and evaluate all known and discovered cultural values in the project areas. See Appendix 2, page C-14, of the draft EIS.
- 7-7 Thank you for pointing out these discrepancies. Maps B-10 and B-11 were misnumbered and reversed in the draft EIS. The text on pages B-193, B-195, B-229, and C-11 has been revised in Section 1 of this document.



**Rocky Mountain
Oil & Gas Association, Inc.**

Jack G. Swenson
Executive Vice President
and General Manager

345 PETROLEUM BUILDING • DENVER, COLORADO 80202
303/534-8261

July 16, 1985

Mr. Robert E. Pizel, Project Leader
Division of EIS Services
Bureau of Land Management
555 Zang Street, 1st Floor East
Denver, CO 80228

Subj: Draft Environmental Impact Statement;
PR Spring Combined Hydrocarbon Lease Conversion

Dear Mr. Pizel:

The Rocky Mountain Oil and Gas Association (RMOGA) is a trade association whose members account for more than 90% of the exploration and production of oil and gas as well as the majority of tar sand development in the eight-state region it serves. We appreciate this opportunity to comment on the Draft Environmental Impact Statement (DEIS) for the PR Spring Combined Hydrocarbon Lease Conversion.

8-1

We are encouraged by the conclusions reached in the Draft Environmental Impact Statement prepared for the PR Spring Combined Hydrocarbon Lease Conversion proposal. The recognition by the Bureau of Land Management that recovery of the tar sand resources can be managed without undue degradation to the other natural resources or the socioeconomic conditions is applauded.

The development of tar sands as an energy resource must be made available to our country. The BLM has taken another important step in maintaining our energy independence.

Thank you.

Sincerely,

Jack G. Swenson

EH/psr

Response to Comment Letter 8

8-1 Thank you for your interest in the P R Spring projects. The views expressed will be considered in the decision-making process.



Wentworth, M. McKinley

Armed Adams

SIERRA CLUB LEGAL DEFENSE FUND, INC.

Symes Building 820 16th St., Suite 514 Denver, Colorado 80202 (303) 892-6301

July 18, 1985

HAND DELIVERED

SAN FRANCISCO OFFICE
Fredric P. Sutherland
Executive Director

Laurena H. Silver
Michael R. Stover
Julie E. McDonald
Stephen C. Volker
Deborah S. Reines
Staff Attorneys

Walter Parker
Coordinating Attorney

Earl M. Blumner
(of Counsel)

Chen Yun Chuan
Legal Assistant

Joanne C. May Klejman
Director of Development

2044 Fillmore St.
San Francisco, CA 94115
(415) 957-6100

ROCKY MOUNTAIN OFFICE:

H. Anthony Ruckel
Karin E. Sheridan
Lori Potter
Staff Attorneys

Douglas L. Hornold
Law Associate

Symes Building
820 16th St.
Suite 514
Denver, CO 80202
(303) 892-6301

WASHINGTON, D.C. OFFICE:

Fredrick S. Middleton, III
Howard L. Fox
Dawn M. Zachry, Jr.
Staff Attorneys

Ronald J. Wilson
Of Counsel

Liz W. Jorgensen
Law Associate

1424 K St., NW
Suite 500
Washington, D.C. 20005
(202) 347-1770

ALASKA OFFICE:

Laura J. Adams
Staff Attorney

Suzanne La Pierre
Philip S. Barnett
Law Associates

419 6th St.
Suite 311
Juneau, AK 99801
(907) 586-2751

Robert Pizel, Project Leader
Bureau of Land Management
Division of EIS Services
555 Zang Street, 1st Floor East
Denver, Colorado 80228

COMMENTS ON DRAFT EIS, PR SPRING COMBINED
HYDROCARBON LEASE CONVERSION, BY THE SIERRA CLUB,
THE WILDERNESS SOCIETY, SOUTHERN UTAH RESIDENTS
CONCERNED ABOUT THE ENVIRONMENT,
NATIONAL PARKS AND CONSERVATION ASSOCIATION,
SOUTHWEST RESOURCE COUNCIL, UTAH WILDERNESS ASSOCIATION,
AND SOUTHERN UTAH WILDERNESS ALLIANCE

1. The section on cumulative impacts analysis violates the C.E.Q. regulation requiring the use of plain language in EIS's, so that the public can readily understand them. 40 C.F.R. § 1502.8; Oregon Environmental Council v. Kunzman, 22 ERC 1739 (D. Oregon 1985). Further, the cumulative impacts analysis is inadequate. Conner v. Burford, 22 ERC 1608 (D. Mont. 1985).

2. The DEIS is insufficient because it fails to perform an adequate worst-case analysis, even though many of the environmental effects are acknowledged to be unknown at this time. Save an Ecosystem v. Clark, 20 ERC 1607 (9th Cir. 1984); SOCATS v. Clark, 720 F.2d 1748 (9th Cir. 1983); Sierra Club v. Sigler, 695 F.2d 957 (5th Cir. 1983); Oregon Environmental Council v. Kunzman, 22 ERC 1739 (D. Oregon 1985); NCAP v. Block, 20 ERC 1997 (D. Oregon 1984); Merrell v. Block, 20 ERC 1620 (D. Oregon 1983); National Wildlife Federation v. USFS, 21 ERC 1225 (D. Oregon 1984); 40 C.F.R. § 1502.22.

3. The DEIS illustrates that the proposed action violates the Combined Hydrocarbon Leasing Act, because the proposals do not contain sufficient information to ensure reasonable protection of the environment. 30 U.S.C. § 226(k)(1)(A).

9-5 4. The DEIS illustrates that the proposed action violates the Combined Hydrocarbon Leasing Act's diligent development requirement, because the ten component projects are highly conceptual, uncertain of development, and dependent upon uncontrollable influences such as the price of oil and availability of money. See p. A-5; 30 U.S.C. § 226(k)(1)(A).

9-6 5. Even if the CHLA allowed lease conversion on a phased-approved basis, the DEIS violates NEPA because BLM does not retain the right to preclude any and all future activities on the leaseholds. Sierra Club v. Peterson, 717 F.2d 1409 (D.C. Cir. 1983). All future site-specific activities must be again subject to NEPA review and reassessment of all assumptions contained in this document. Conner v. Burford, 22 ERC 1606 (D. Mont. 1985), Louisiana Wildlife Federation v. York, 22 ERC 2009 (5th Cir. 1985). The modification or removal of any stipulation must be subject to complete NEPA review. Id.

9-7 6. The DEIS is inadequate because lease conversion is based upon a proposed rule, 43 C.F.R. § 3140 (January 10, 1985), which violates the Combined Hydrocarbon Leasing Act, as the undersigned have protested to the Secretary of Interior and to the Director, BLM.

9-8 7. The DEIS illustrates that the proposed projects violate the Endangered Species Act, because BLM will allow lease conversion without comprehensive analysis of the effects of all stages of development on threatened and endangered species. North Slope Borough v. Andrus, 642 F.2d 589 (D.C. Cir. 1980); Conner v. Burford, 22 ERC 1608 (D. Mont. 1985). Endangered species occur in all project areas. See p. A-45, Table A-12.

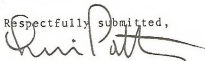
9-9 8. The DEIS illustrates that the proposed projects violate the Combined Hydrocarbon Leasing Act's requirement for submission of "an acceptable plan of operations," 30 U.S.C. § 226(k)(1)(A), inasmuch as the project operators lack essential information on their exploration and development activities which would enable BLM to do proper environmental analysis.

9-10 9. The DEIS' assumption that the Winter Ridge WSA will not be designated as wilderness (p. A-28) is spurious, and conversion within the WSA violates § 603 of FLPMA and the BLM's Interim Management Policy. BLM has a duty to assume that Winter Ridge WSA will be designated wilderness and to manage the entire project area so as to preserve the area's wilderness character. RMOGA v. Watt, 696 F.2d 734 (10th Cir. 1982); California v. Block, 690 F.2d 753 (9th Cir. 1982); Conner v. Burford, 22 ERC 1608 (D. Mont. 1985). Possible future site-specific analysis

Page Three
Robert Pizel
July 18, 1985

- 9-10 of development does not comply with the requirement of protect-
(cont) ing the area's wilderness qualities. Conversion will likewise
violate continuing law # 473, in that BLM has no duty or
responsibility to convert the leases within Winter Ridge WSA.
- 9-11 10. The proposed conversion violates the National Historic
Preservation Act by failing to first systematically inventory
the southern portion of the project area. See p. A-48.
- 9-12 11. The DEIS is inadequate because it fails to assess the
impact of the project on specific existing water rights, includ-
ing federal reserved water rights.
- 9-13 12. The DEIS is inadequate because it is not based upon
sufficient information to support any of the conclusions that
environmental impacts will be insignificant.

Respectfully submitted,



Lori Potter
Attorney for Sierra Club, The
Wilderness Society, Southern Utah
Residents Concerned About the Envi-
ronment, National Parks and Conser-
vation Association, Southwest
Resource Council, Utah Wilderness
Association, and Southern Utah
Wilderness Alliance

LP/rs

Responses to Comment Letter 9

- 9-1 We have reviewed the Cumulative Analysis section for clarity. The analysis is based on the Uintah Basin Synfuels (UBS) Development EIS, and no comments were received on UBS regarding lack of clarity. Additionally, CEQ regulations allow for tiering to eliminate repetitive discussions (40 CFR 1502.20 and 1508.28). Given the absence of specific questions or suggestions for improvement, we are unable to make any changes (40 CFR 1503.3(a)).
- 9-2 Since the P R Springs projects occur within the area previously analyzed under the final Uintah Basin Synfuels Development EIS (BLM 1983), the use of the detailed cumulative analysis in the EIS is sufficient. Because the commenter failed to supply specific comments (40 CFR 1503.3) as to why the cumulative analysis is inadequate, no revisions are possible. Also see the response to comment 7-4.
- 9-3 The EIS is based on project descriptions provided by the proponents (Section B), Project Related Assumptions on page A-26 and A-28, and, where necessary, a worst-case analysis. The worst-case analysis is evident in the biological opinion that threatened and endangered species could occur on the project area and in the use of the highest production rate instead of a range of production rates. As the commenter failed to provide specific comments (40 CFR 1503.3) as to inadequacies, specific comment responses are not possible.
- 9-4 See response to comment 7-1.
- 9-5 Proposed Rulemaking, 43 CFR Part 3140, Federal Register Vol 50, No. 7, January 10, 1985, defines diligent development as follows: "A lessee shall meet his/her diligent development obligation if: (a) The lessee is conducting activity on the lease in accordance with an approved plan of operations; (b) If the lessee files with the authorized officer, not later than the end of the eighth lease year, a supplement to the approved plan of operations which shall include the estimated recoverable tar sand reserves and a detailed development plan for the next stage of operations; and (c) The lessee annually produces the minimum amount of tar sand established by the authorized officer in the minimum production schedule contained in the lease or pays annually advance royalty in lieu of this minimum production." Therefore, until the applicant has a combined hydrocarbon lease, which cannot take place until after any decision resulting from this EIS, and then subsequently fails to meet the indicated requirements of diligent development, it is not possible for the Combined Hydrocarbon Leasing Act's diligent development requirement to be violated.
- 9-6 Lease conversion would not be on a phased-approved basis because a decision to convert or not a convert lease would be made in total after completion of the EIS process. This decision would be based on the concept of development as portrayed in the current plan of operations and/or as may be modified by required mitigation measures. An environmental document or a decision to convert a

9-6 cont. lease does not or would not violate NEPA as long as the pertinent environmental considerations are investigated and recognized in the process. NEPA contains no requirement that BLM retain the right to preclude "any and all future activities" on leased lands. Leases are issued with stipulations which set forth the basic parameters for lessee activities, and these stipulations provide the framework of rights available to the lessee and conditions acceptable to BLM. Since initial plans of operations can be refined as more geological and technological information becomes available in the future, lease stipulations can require future reviews and approvals of methods of lease development as conditions may warrant.

Future site-specific activities would be analyzed, as clearly noted in the Draft EIS General Summary and Appendix 2. As conceptual project plans became more specific, reviews would occur to assure that the plans conformed to the lease terms and to the permitting requirements of appropriate authorizing agencies. Further, if future conditions resulted in concept changes or major adjustments in project plans, new environmental analysis and mitigation measures could be identified as needed to conform with the new conditions.

Should future off-lease rights-of-way be needed on federal lands, further environmental analysis would be conducted prior to a decision on each right-of-way grant. Construction, operation, and maintenance plans or similar documents would be prepared covering the construction of all off-lease facilities on federal lands.

There are certainly no plans to modify or remove any stipulations that would be a part of any leases, except in a few instances where stipulations are designed to be in effect on a conditional basis, such as those imposed in wilderness study areas during an interim period until Congressional action is taken. In fact, once a lease is issued, it is extremely difficult to significantly alter lease stipulations without substantial cause and a thorough amendment process. It is assumed that the mitigation measures and stipulations discussed in the draft EIS would be carried forward as lease stipulations (see page C-11). Any major project changes in the future that would significantly alter impact analysis or related decisions (or necessitate a significant addition of mitigation measures or stipulations) would require additional environmental analysis.

9-7

Lease conversion is based on the Combined Hydrocarbon Act of 1981, which amended the Mineral Lands Leasing Act of 1920, and the subsequent regulations published in the Federal Register Monday, March 1, 1982 (proposed rulemaking), and May 24, 1982 (final rulemaking). Elsewhere in Utah, other oil and gas leases have been converted to combined hydrocarbon leases under these provisions. The proposed rulemaking published on January 10, 1985, referred to by the commenter deals only with the definition of paying quantities and diligent development requirements for tar sand in combined hydrocarbon leases, not with consideration of actual lease conversions. Therefore, the draft EIS is not inadequate in this regard (lease conversion based on a proposed rule) as suggested by the commenter but is, in fact, founded on established law and regulations.

- 9-8 Since all projects analyzed in the draft EIS are conceptual, no site-specific analysis of impacts to threatened or endangered species can be undertaken. When site-specific projects are proposed, Section 7 procedures under the Endangered Species Act will be reinitiated and all requirements of the Act will be fulfilled. The U.S. Fish and Wildlife Service was requested to furnish a Section 7 species list for the project areas (draft EIS, Appendix 4). Using this list and impact data from the EIS, BLM prepared a Biological Assessment for the project areas. This assessment has been sent to the Fish and Wildlife Service, and they, in turn, have prepared a Biological Opinion based on the assessment. As mentioned above, reinitiation of Section 7 requirements would occur as site-specific mining plans are submitted.
- 9-9 The Combined Hydrocarbon Leasing Act requires a plan of operations "which is in substantial compliance with the information requirements of 43 CFR 3572.1." However, the plans may be modified or amended to reflect (1) changes in technology or schedules or (2) new information about the resource or the economic or environmental aspects of the development. Plans can be approved even though they may indicate that work under the exploration phase is necessary (43 CFR 3140.2-3). The EIS analyzed the projects as proposed. Changes reflecting new information could modify the operating plans and would require supplemental environmental analysis.
- 9-10 The DEIS assumption has been revised to further clarify its intent of presenting a worst-case analysis. BLM will continue to preserve and protect wilderness characteristics under the "nonimpairment criteria" as mandated under Section 603(c) of the Federal Land Policy and Management Act (FLPMA). According to an opinion issued by the Office of the Solicitor (1983), conversion to combined hydrocarbon leases would not be a violation of Section 603(c) of FLPMA. Wilderness characteristics would continue to be protected after lease conversion. As stated in the draft EIS General Summary, page A-3, "Should a lease be converted, a more site-specific environmental analysis would be needed before the types of commercial production addressed in this environmental impact statement (EIS) would be permitted." Therefore, any potential lease conversion activities that could impair the wilderness character of the Winter Ridge WSA would undergo further site-specific environmental analysis before on-the-ground activities would be allowed.
- 9-11 The proposed conversion would not violate the National Historic Preservation Act. Prior to project construction, the lessee, in consultation with the authorized officer and the Utah State Historic Preservation Officer, would use existing cultural resource data to develop a plan for locating cultural resources that would be directly or indirectly affected by the proposed project. A BLM Class III field survey would be required. See Appendix 2, page C-14, of the draft EIS.

9-12

This EIS is based on the applications filed by the proponents to convert their oil and gas leases to combined hydrocarbon leases. Because the location and extent of the resources are not fully known, project designs are conceptual. Should a lease be converted, a more site-specific environmental analysis would be needed before the types of commercial production addressed in this EIS would be permitted. Furthermore, since water is fully appropriated in the area, the water would have to be purchased or leased from another water user. This means that use may not be increased; one type of use would be substituted for another. If this should happen in the future, the state of Utah is responsible for reviewing such actions and issuing any permits to construct diversion facilities or to change the nature of use of an existing water right.

9-13

The EIS analysis is based on the significance criteria (pages A-51 through A-55 of the draft EIS). Impacts that did not meet these criteria were considered insignificant. Since the commenter failed to provide specific comments (CEQ 1503.3) as to inadequacies, specific comment responses are not possible.



NORMAN H. BANGERTER
GOVERNOR

STATE OF UTAH
OFFICE OF THE GOVERNOR
SALT LAKE CITY
84114

July 16, 1985

Mr. Robert E. Pizel
Project Leader
Bureau of Land Management
Division of EIS Services
555 Zang Street, First Floor East
Denver, Colorado 80228

Dear Mr. Pizel:

This letter constitutes Utah's comments on the Draft Environmental Impact Statement (DEIS) for the P R Spring Combined Hydrocarbon Lease Conversion.

As you may know, Utah has consistently maintained that we need to progress toward the goal of energy self-sufficiency through reducing our national dependence on foreign oil. Also, the development of a tar sands technology is in the interest of our national security. Thus, I applaud your agency's efforts to allow exploration and, ultimately, development of our state's tar sands resources. The analysis set forth in the DEIS, however, is not without deficiencies, both as a result of the mandates contained in the Combined Hydrocarbon Leasing Act (PL 97-78) (CHLA) and in technical deficiencies in the document.

I have pointed out in previous comments on tar sands lease conversion EIS's and EA's that a technology gap exists in the method and time frames required in the CHLA. The plans submitted to comply with the CHLA for P R Spring are no exception. They were to be submitted by November 15, 1983. The ten projects proposed by the companies consist of plans compiled to the best of each company's ability within the prescribed time. Consequently, the plans of operation may not reflect actual development plans. I am, therefore, as in previous cases of this type, reserving judgment to critique and comment on the final development plans until said final plans are submitted by the operators. We are assured on Page A-14 of the DEIS that any significant changes in the projects' development plans will once again be cycled through the review process.

Five specific areas of the technical analysis are in need of reexamination: wilderness, mineral resources, cumulative impacts, wildlife resources, and air quality.

Wilderness

- 10-1 The Winter Ridge Wilderness Study Area (WSA) situation is perplexing, but hopefully can be ameliorated by lease stipulation until Congress formally determines the WSA's status. What happens in effect is that the leaseholder would be constrained to certain types of non-impairment activity until a Congressional determination is made. Since there is no deadline for Congress to act on this matter, the companies here could be constrained during their ten-year diligence period in which paying quantities must be produced. The project proponents will be entering into these development scenarios in full recognition of the limitations. My question, however, is does another way exist to create a win/win/win settlement for the state, the developer, and the Bureau of Land Management? In other words, can a reasonable development scheme be formulated so that the tar sands project can proceed in this area? It appears that possibly a need to amend the CHA is in order.

Mineral Resources

- 10-2 Mineral resources analysis in the DEIS appears to rely to a great extent on one particular reference by Dana and Sinks, 1981. Utah points out that one additional reference—Clem, Keith, 1984, Economic Potential of the P R Spring Oil Impregnated Deposit, Uintah Basin, Utah: UGMS, Special Studies 65—should be consulted. This reference should provide you with considerable additional data to formulate reserve estimates.

Cumulative Impacts

- 10-3 Cumulative impacts are an additional part of the EIS that should be reexamined. On Page B-243, Cumulative Analysis, the DEIS says "Although the current projects were not analyzed specifically in the UBS EIS, the cumulative analysis contained in that EIS is sufficient to cover cumulative impacts that may occur in the region." The above quote even admits the P R Spring projects were not part of the Uintah Basin Synfuels Development (UBSD) EIS analysis. Except for Enercor-Mono Power, all other projects in the UBSD were well outside the critical deer and elk summer ranges.

It is obvious that cumulative impacts on wildlife from the UBSD EIS cannot be used as an analysis of cumulative impacts to P R Spring. They are not synonymous, and we do not accept the comparison.

- 10-4 The EIS preparers point out that the UBSD EIS (BLM, 1983) evaluates the cumulative impacts of development in the Uintah Basin and that by replacement of certain originally proposed projects now deleted with the lease conversion projects, this area is adequately addressed. The lease conversion EIS, however, does not specify how much of each of this impact is attributed to each of the conversion projects. It seems logical that this project-specific information would be critical in developing lease stipulations. In addition, there are no mitigating measures presented which would address cumulative impacts of the project.
- 10-5

Mr. Robert E. Pizel
Page 3
July 16, 1985

Wildlife

10-6 Big game studies on the Book Cliffs have shown summer range to be the limiting factor to these populations. Yet the proposed conversion and development of the leases would impact 51 percent of the critical elk summer range and 24 percent of the critical deer summer range. This is unacceptable. Furthermore, we disagree with BLM's impact significant criteria on Page A-53. The Division of Wildlife Resources considers any net loss of critical value habitat as unacceptable. We question the ability to compensate through mitigation for losses of this magnitude in the Book Cliffs.

10-7 Items 9, 10, and 11 in Appendix 2 contain mitigation provisions for critical (crucial) value habitats and migration corridors. Maps C-1 through C-10 show where these special stipulations would be put into effect as these critical value habitats are impacted by lease. Beartooth A and B, Enercor, Enserch, Farleigh, and Kirkwood projects all impact critical summer and/or critical winter deer and/or elk habitat. However, their respective maps (C-1, C-2, C-5, C-6, C-7, C-8) do not provide the mitigation as discussed in Appendix 2.

Air Quality

10-8 With regards to meteorological data used in the modeling analysis, the Geokinetics star data is more representative of dispersion conditions in the vicinity of the P R Spring area than the White River data that was used in the modeling. The worst case short-term meteorological condition of F stability at 2.5 meters per second is not considered worst case for impacts from elevated releases of SO₂ out of stacks. We suggest that other neutrals or unstable conditions be used to model these types of sources as well.

10-9 PSD permitting of all major tar sands facilities will most likely require collection of onsite meteorological data for a period of at least one year. This may cause considerable delays in the schedules as proposed in the DEIS. This fact should be taken into account in the Final EIS.

10-10 The fact that violations of the NAAQS and PSD increments will occur from the Enercor, Kirkwood, and Mobil tar sand facilities means that these facilities cannot be permitted as proposed by the applicants. A maximum production scenario should be analyzed such that no violations of any PSD increment or NAAQS will occur as part of the EIS.

10-11 The Ozone should have been modeled for all sources and secondary sources in the area of the proposed facilities. The statement on Page A-34 of the DEIS states that high ozone concentrations measured at White River, possibly due to natural sources or stratospheric intrusion, is not fully supported by references. Even if the high concentrations are due to natural sources, additional concentrations of ozone due to these projects are not allowed to exceed the NAAQS.

Mr. Robert E. Pizel
Page 4
July 16, 1985

10-12 The emissions of TSP from Enercor, Mobil, and Kirkwood were modeled by the Bureau of Air Quality using the Valley model for a set of receptors with terrain heights obtained from digitized DMA terrain data. This is the basic approach we use to track increment consumption in the Uintah Basin for all PSD sources. The results show that the PSD increment from these projects alone may be violated as far as 15 kilometers from the emitting facilities. This analysis shows much higher concentrations than those obtained in the DEIS modeling analysis. Possible differences may be the placement and resolution of the receptor grid used.

10-13 The cumulative analysis should not rely on results obtained from the UBSD EIS. The projects in the Uintah Basin that have PSD permits should have been included in the cumulative analysis by modeling all sources at once. It should indicate a much more stringent control requirement for the newer permitted sources, since increments near the already permitted areas have already been fully used. The emissions contained in the PSD permits for these facilities are a much better estimate than those originally used in the UBSD EIS.

10-14 Finally, the mitigation methods for control of fugitive dust would need to include more control than paving dirt roads. New techniques for control of overburden removal should be sought after because these emissions could become the limiting factor in the development of the proposed facilities.

I hope these comments will be helpful to you in finalizing this lease conversion EIS. Should you have any questions on this position, please contact Ms. Ruth Ann Storey of my office or Mr. Ronald Daniels, Chairman of the Minerals Leasing Task Force.

Sincerely,


Norman H. Bangerter
Governor

NHB:dch

Responses to Comment Letter 10

- 10-1 Amending the Combined Hydrocarbon Leasing Act is beyond the scope of this EIS.
- 10-2 Thank you for the additional reference. The degree of oil saturations is extremely variable and discontinuous over the projects. For this reason, a worst-case assumption was used in estimating the extent of surface disturbance. Reliable resource estimates will not be available until core drilling has been completed.
- 10-3 As stated on page B-243 of the draft EIS, the existing UBS Development EIS Cumulative Analysis was analyzed to determine its correlation to the P R Spring projects. It was determined that the UBS Cumulative Analysis contains some projects that have been deleted and delayed, while other projects, including P R Spring, have been proposed. The net effect of these offsetting changes is that the range of impacts analyzed for the UBS Cumulative Analysis is still valid, even with the 10 new P R Spring projects.
- In addition to the critical summer range you indicated for Enercor-Mono Power, the UBS EIS displays (Table R-4-20) and analyzes critical deer or elk summer ranges for Enercor (Rainbow), Magic Circle, Paraho, Syntana-Utah, and Tosco. As explained in the draft EIS, pages B-243 and 244, specific critical summer ranges are not analyzed for the Cumulative Analysis. However, the P R Spring cumulative impacts are within the range of impacts analyzed and presented in the UBS EIS.
- 10-4 The collective totals of these projects are listed on pages B-243 and B-244 of the draft EIS for water use, tar sand oil production, peak construction work force, operational work force, acres disturbed, and acres removed. The lease stipulations will be developed based on site-specific information.
- 10-5 The EIS does not provide mitigation measures for cumulative impacts as no mechanism exists to require these types of measures. In addition, there is no overall program for development; the scope of the EIS is limited to dealing with individual proposed projects where valid individual decisions are required. The overall plan for the area is contained in the final Book Cliffs Resource Management Plan EIS (BLM 1984).
- 10-6 A policy of any net loss of crucial value wildlife habitat being unacceptable would not allow any development of the tar sand industry; it would even bar exploration. The low percentages of disturbance of crucial big game habitats for the projects (0-1.1 percent for crucial mule deer winter range, 0-1.9 percent for crucial elk winter range, and 0-2.0 percent for crucial deer summer range) do not represent significant habitat losses, and these small losses can be mitigated by utilizing criteria in this EIS.

- 10-6 cont. The loss of 34 percent of the crucial elk summer range from the Enercor project is spread over the entire 100 years of the project life. During these 100 years, no more than 80 acres, or about 0.1 percent of the habitat, would be out of forage production at any one time. The mitigation measures detailed in this EIS could compensate for these small losses.
- 10-7 The special stipulations (mitigation provisions) contained in Appendix 2 and shown on Maps C-1 through C-10 of the draft EIS were taken from the Book Cliffs Resource Area Final Resource Management Plan (RMP) and are consistent with that document.
- Your statement that the Beartooth A and B, Enercor, Enserch, Farleigh, and Kirkwood projects impact critical summer and/or critical winter deer and/or elk habitat is correct. However, during development of the Book Cliffs RMP, it was determined that special stipulations as identified in Appendix 2 of the draft EIS would not be needed to protect wildlife values on the areas in question. Therefore, they were shown to require only standard leasing stipulations, not the more limiting special stipulations.
- 10-8 Thank you for the information concerning the Geokinetics STAR data. However, as discussed on page 1-4 of the draft Air Quality Technical Report, the EIS air quality analysis was not for the purpose of issuing a PSD permit; therefore the analysis was on a broad, worst-case scale. Additionally, as discussed on page 5-5 of the draft Air Quality Technical Report, other stabilities were modeled if no elevated terrain features were present. Page C-39 of the draft EIS has been revised in Section 1 of this final EIS to reflect this fact.
- 10-9 The text has been revised in Section 1 of this document to include a statement that one year of on-site data will be needed for most projects.
- 10-10 The proposed actions analyzed in the EIS are maximum production scenarios. The companies involved are required by Utah State Law to meet both PSD and NAAQS. Construction and PSD permits would be required prior to construction approval. Where it was anticipated that PSD and NAAQS would be exceeded, actual production would be less than the barrels-per-day figure used for analysis purposes in the EIS. Actual production would depend on final design following the pilot phases of the projects and on limitations imposed in permits issued by the state of Utah.
- 10-11 Previous air quality analyses for synfuel production in Utah (Combined Hydrocarbon Regional EIS and Uintah Basin Synfuels Development EIS) indicated that although proposed projects could increase ozone levels slightly, levels would not be expected to exceed the NAAQS. For this reason, ozone was not expected to be a problem and therefore was not modeled.

- 10-12 As your comment mentions, the placement and resolution of the receptor grid may account for the differences in TSP concentrations. Another possibility is the distribution of particulate emission sources. A significant percentage of the TSP emissions would occur from haul and access roads and may extend for many miles from the projects. If these emissions were allocated to the project area, rather than the dispersed road system, higher concentrations would result. However, as identified on page 1-4 of the draft Air Quality Technical Report, the analysis for the EIS was not prepared for the PSD permit regulations. The EIS analysis is a broader analysis for National Environmental Policy Act (NEPA) purposes. What is included under the PSD permit procedures will be the responsibility of the Utah Bureau of Air Quality.
- 10-13 The cumulative analysis did use all the listed sources in its analysis. Some PSD permits may have been issued, but many projects have not been permitted and many others have even been dropped recently. Refinement of the emissions may give a slightly better picture but would not change the impacts. By using the UBS cumulative totals, the analysis covers the "worst case."
- 10-14 BLM agrees that no control measures currently available could fully mitigate TSP impacts and that new methods need to be devised. Hopefully, new methods will be developed before or during the PSD permitting process. Because applicants must demonstrate compliance with all air quality standards and increments, it is their responsibility to seek these additional controls.



ENERCOR
820 Beneficial Life Tower
Salt Lake City, Utah 84111
(801) 533-6333

July 17, 1985

Robert Pizel, Project Leader
Bureau of Land Management
Division of EIS Services
555 Zang Street, First Floor East
Denver, Colorado 80228

Dear Mr. Pizel:

We have reviewed the PR Spring draft environmental impact statement and appreciate your invitation to provide comments. We were pleased to meet with BLM staff on several occasions and explain our project and discuss the tar sands development in the PR Spring area.

We commend the EIS team for its efforts in drafting the PR Spring document, however, we note that there are some errors and misconceptions which may mislead a reader into believing that the environmental effects of the lease conversion would be more severe than a more careful analysis of the data would indicate.

11-1

The EIS draft states that elk herd unit 21 would be significantly impacted by the disturbance of 34 percent of the 54,100 acre crucial summer range. We believe this to be misleading. The total acreage disturbance in one year would be no more than 60 acres. The Endangered Species Act recognizes certain plants and animals as being in danger of extinction and forbids actions which would significantly jeopardize a species. Game animals are protected from taking by hunting regulations, seasons, licenses and limitations on how many and which category of these animals may be killed. One of the main functions of the state wildlife resource management personnel is to assure a sizeable population of these game animals so that the recreational experience of hunting is sufficiently rewarding. Populations of game animals are controlled through varying the length of the season, the sex and age of animals which may be taken, and the

- 2 -

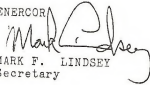
number of animals which may be killed. Where game populations increase, these parameters can be changed to allow more to be harvested. When the populations decrease, the state game management agency can reduce the length of the season, reduce the number of animals allowed per hunter, allow only mature males to be taken or may even close the season to hunting of a species. We believe project management working in consultation with state wildlife managers should be able to adapt satisfactory mitigation measures.

Comments concerning air quality will be sent to you by Mr. Stanley Zygmunt, Delta H Engineering.

We would like to thank you and your staff for working so diligently on the EIS draft and for visiting our site and pilot plant. Should further discussion be needed, please contact me at (801) 538-2150 or the address listed above.

Very truly yours,

ENERCOR


MARK F. LINDSEY
Secretary



Response to Comment Letter 11

- 11-1 The text has been revised in Section 1 of this final EIS to show that the 34 percent reduction in crucial elk summer range would take place over the life of the project.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII

ONE DENVER PLACE — 999 18TH STREET — SUITE 1300

DENVER, COLORADO 80202-2413

JUL 18 1985

Ref: BPM-FA

Robert E. Pizel, Project Leader
Bureau of Land Management
Division of EIS Services
555 Zang Street, First Floor East
Denver, CO 80228

Dear Mr. Pizel:

In accordance with our responsibilities under the National Environmental Policy Act and Section 309 of the Clean Air Act, the Region VIII Office of the Environmental Protection Agency (EPA) has reviewed the PR Springs Combined Hydrocarbon Lease Conversion Draft Environmental Impact Statement (DEIS). The Bureau of Land Management (BLM) is to be commended for the format used in the document which assisted the reviewer in understanding the proposed actions.

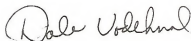
12-1 | Our review determined that while the DEIS provides adequate disclosure of the existing environment and probable impacts to the surface environment, there is a lack of information on sub-surface environment and impacts related to in situ recovery methods. As discussed in our detailed comments, there is a need for extensive geologic and hydrologic information and increased knowledge of ground-water quality related impacts from in situ recovery processes prior to the approval of an in situ commercial operation. The Final Environmental Impact Statement (FEIS) should discuss any alternative means of acquiring this information and knowledge short of pilot phase operation.

12-2 | Air quality modeling shows predicated TSP violations of varying degree, for primary and secondary NAAQS and Class II increments for the Enercor, Kirkwood and Mobil projects. In addition, NO_2 annual NAAQS standards will be violated by at least one project. The FEIS needs to address mitigation plans for these standards violations. It is also important that the FEIS discuss these projects cumulative impacts on air quality.

Based on our review, we have rated this DEIS as E0-2. This means that EPA review has identified significant environmental impacts that must be avoided to fully protect the environment. Corrective measures may require substantial changes to the preferred alternative or significant measures to reduce environmental impact.

Furthermore, the EIS does not contain sufficient geologic and hydrologic information for EPA to fully assess environmental impacts that should be avoided. EPA is available to work with the BLM to reduce these impacts. For further EPA assistance contact Mike Hammer of my staff at (303) 293-1716 or FTS 564-1716.

Sincerely,



Dale Vodehnal, Chief
Environmental Assessment Branch

cc: Lloyd H. Ferguson, District Manager, Vernal District Office
Roland Robison, BLM, Utah State Office
William Dickerson, A-104 (OFA)
Kerry Clough, ARA, Region VIII

EPA COMMENTS ON PR SPRINGS COMBINED
HYDROCARBON LEASE CONVERSION DRAFT
ENVIRONMENTAL IMPACT STATEMENT

Water Quality

- 12-3 The DEIS provides a generalized discussion of typical in situ methodology based on conceptual operation plans submitted by the (7) seven in situ projects. Review of the site-specific analysis of each of these projects reveals little or no sub-surface geologic and hydrologic information for the proposed lease conversions. Additionally, there is little or no knowledge of the impacts the processed in situ tar sand may have on ground-water quality. Hydrologic and geologic data will be obtained during the exploration phase. This data must be gathered not only for overburden and the tar sand bearing strata but must extend sufficiently below the tar sand zone to define potential ground-water resources which may be impacted. More knowledge of potential ground-water impacts and acceptable mitigation measures associated with the in situ recovery process is necessary prior to the commercial phase. If a pilot operation is the only feasible means of defining these ground-water impacts, the BLM needs to clarify the environmental review process to be used to disclose these impacts and discuss their mitigation.

- 12-4 Appendix 2 presents a well organized discussion of provisions and measures designed to reduce impacts. In order to make this section more complete, EPA recommends that discussion of the state Underground Injection Control (UIC) program be added on page C-18 under State of Utah requirements. The Utah Division of Environmental Health, within the scope of authorities and responsibilities of the UIC program, can issue Class V permits for the purpose of assuring protection of underground sources of drinking water from contamination by injection wells used for in situ recovery of tar sands.

Air Quality

- 12-5 As noted, the discussion related to air quality impacts is founded primarily on methodology discussed in Appendix 3. The emissions inventory, based on plans of operations submitted by the applicants, presents adequate impact disclosures for each individual plan. However, we were unable to find an emissions inventory discussion which reflected the cumulative impacts in the event several or all projects would be in commercial operation simultaneously. Agreed to stipulations for TSP Control may be adequate for an individual project but prove inadequate for combined project operations. The final EIS should reflect this information.

- 12-6 EPA is uncertain of the relationship of the cumulative Analysis Section (B-243 through B-250) to the 10 projects analyzed in the DEIS. Discussion on B-234 states "Although the current projects were not analyzed specifically in the UBS EIS, the cumulative analysis contained in that EIS is sufficient to cover the cumulative impacts that may occur in the region." The continued discussion in the Section, particularly Table B-67, Summary of High-Level and Low-Level Scenario impact, indicates that TSP NAAQS and TSP PSD increments will be exceeded but the NO₂ NAAQS increments will not be exceeded.

12-6 This does not appear to be consistent with air quality modeling data for the
(continued) proposed Mobil development statement on page 204, "All significance criteria for TSP and the annual significance criteria for NO₂ would be exceeded." This apparent inconsistency needs to be addressed.

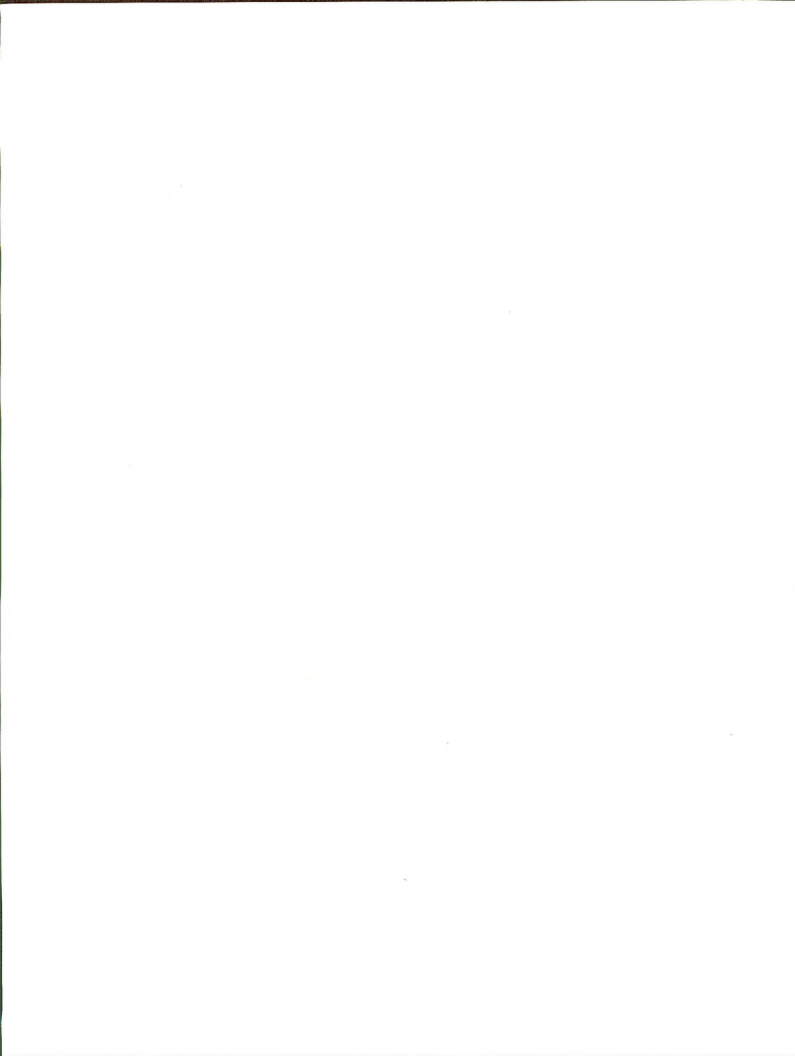
12-7 Air quality emissions data for the Enercor Project (pg. B-98), the Kirkwood Project (pg B-162) and the Mobile Project (pg. B-204) show that at operation plan commercial production rates each of the projects will exceed TSP emissions for both NAAQS and PSD increments. In addition probable visibility impairment may result from the Kirkwood and Mobile projects. As noted earlier in our comments, it appears the NO₂ NAAQS for the Mobil Project will also be exceeded. Based on this information these projects could not be permitted by the Utah Bureau of Air Quality without significant project specific mitigation measures.

12-8 Consistent with commercial phase production information from the proposed operation plans, at what level of production, barrels per day, would each of the above three projects not exceed air emissions significance criteria?

12-9 One further comment is related to the discussion of criteria pollutants on (pg. A-34). A reference is made to carbon monoxide and ozone data at the Ua/Ub site but does not provide the data. These values should be provided in the FEIS.

Transportation

12-10 The implication is that commercial phase product will be transported from the 10 individual production sites via existing roads. While it is acknowledged that upgrading and surfacing will be required, there is no discussion of the cumulative impact of transporting daily commercial phase production of all 10 projects. It would appear that the projected number of daily trips on some road segments would significantly overload carrying capacity. A discussion of alternative product transportation methods or systems should be included in the FEIS.



Responses to Comment Letter 12

12-1 Before the pilot phase, some core drilling would be completed on all projects, which would provide geologic and hydrologic information. Only a pilot operation on these leases or some other lease can provide actual on-site data.

12-2 As discussed in Appendix 2 of the draft EIS, BLM is not aware of any mitigating measures sufficient to prevent violations of Class II and NAAQS TSP standards and the NAAQS for NO₂ for the projects as proposed by the applicants.

The cumulative air quality impacts of the P R Spring projects are within the range of impacts analyzed in the UBS cumulative analysis. See the draft EIS, page B-243.

An analysis of the cumulative impacts showed similar problems as the individual analyses. The NAAQS and Class II increments for TSP would be exceeded, as would the NAAQS for NO₂. In addition, the projects could cumulatively cause significant visibility impacts at the Uintah and Ouray Indian Reservation that were not identified when analyzing the projects individually.

12-3 Additional data will be gathered during the exploration phase. As stated on page A-3 of the draft EIS: "Approval of the conversion application would permit phased tar sand development. Because the location and extent of the resource are not known, project designs are conceptual. Should a lease be converted, a more site-specific environmental analysis would be needed before the types of commercial production addressed in this environmental impact statement (EIS) would be permitted." In addition, various other permits required by the state of Utah would have to be issued, see page C-18 of the draft EIS.

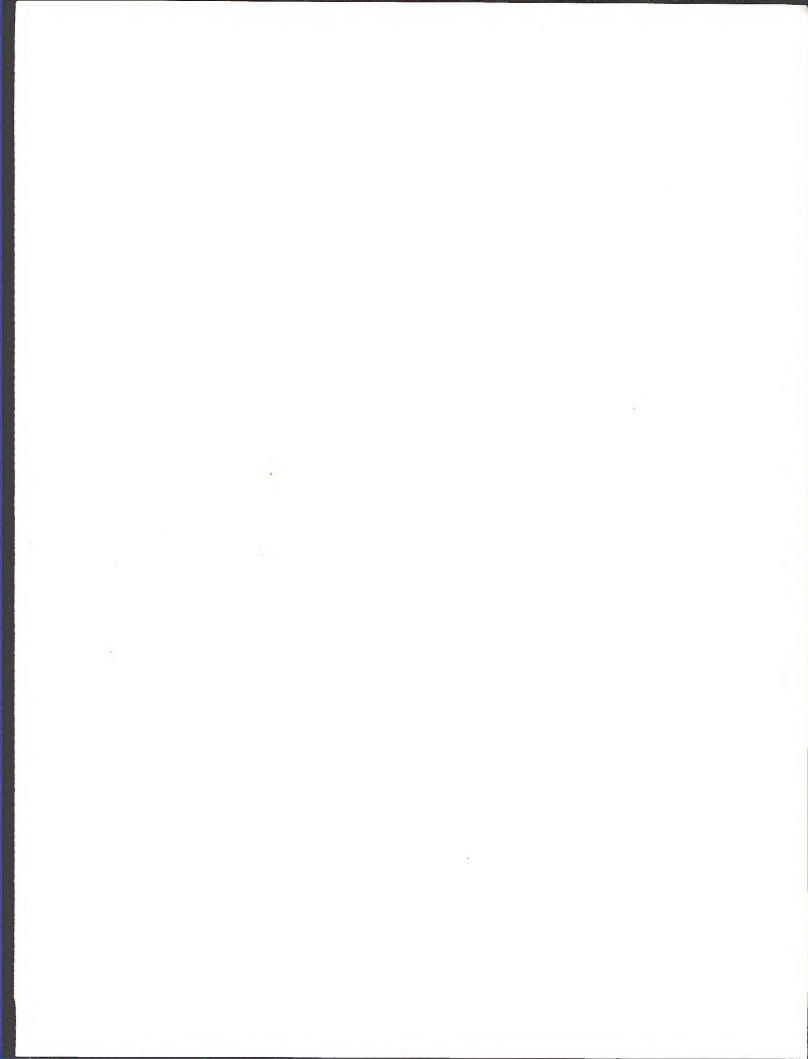
12-4 Thank you for this information; it has been added to the text in Section 1 of this final EIS.

12-5 The cumulative impacts are provided in the draft EIS's Cumulative Analysis, page B-243, and, as referenced, in the UBS EIS.

The "cumulative analysis" of less than all of the projects would be, in reality, a partial cumulative or some intermediate collective total that would have to be artificially generated for purposes of analysis; this approach would lack any rationale for assuming which mix of projects to analyze. More importantly, the cumulative analyses presented in the draft EIS, starting on page B-243, provides the required worst-case analysis through the cumulative analysis of the 10 projects.

The analysis indicated that three of the projects could not meet TSP increments or NAAQS individually or collectively. Because the particulates in general would be large and fall out rapidly with distance from the sources, BLM does not expect significant cumulative impacts for TSP.

- 12-5 cont. An emissions inventory for several projects operating simultaneously can be obtained by simply adding the emissions from each individual project.
- 12-6 The cumulative analysis involves analyzing all anticipated projects in the area as a unit. The air quality impacts resulted from data and a range of emission factors from the UBS EIS. The P R Spring project-related impacts were based on the companies' preliminary plans of operation and utilized various sets of existing data, such as meteorological data for the White River oil shale project; the impacts resulted from data and a range of emission factors for the P R Spring projects.
- There is a direct relationship between the cumulative analysis and the individual project analysis which, as you point out, is not apparent. The NO₂ emissions are predicted to not exceed NAAQS for UBS and to exceed the standards for P R Spring. The modeling by two separate contractors using two different but equally correct ranges of emission factors resulted in two model outputs. Both answers are correct. However, while preliminary modeling predicts a possible violation, any project development would be subject to review and approval under the Prevention of Significant Deterioration (PSD) rules. The application of federal and state laws and regulations would prevent violations, unless an exception were approved. Also see response to comment 12-2.
- 12-7 These actions are under the jurisdiction of the Utah Bureau of Air Quality. BLM cannot comment on what the state of Utah may or may not do.
- 12-8 The EIS, and therefore the air quality analysis, considers only the applicants' proposed level of production, which is "focused by the primary objective of the lease application," and the alternatives "considered feasible, given the applicants stated goals" (CEQ Guidance Regarding NEPA Regulations, Federal Register, Vol. 43, No. 48, page 34264). Potential solutions, including reduced production levels that would allow the projects to meet air quality standards, would result from negotiation during the PSD permitting process with the Utah Bureau of Air Quality.
- 12-9 These data have been added; see Section 1 of this final EIS.
- 12-10 The scope of the EIS is to deal with each individual project for which an individual decision is required. There is no overall plan of development; therefore, examining alternative transportation methods was not appropriate. The cumulative impacts are assessed on pages B-243 through B-250 of the draft EIS.





United States
Department of
Agriculture

Soil
Conservation
Service

P.O. Box 11350
Salt Lake City, UT 84147

July 15, 1985

Robert E. Pizel, Project Leader
Bureau of Land Management
Division of EIS Services
555 Zang Street, First Floor East
Denver, Colorado 80228

Dear Mr. Pizel:

13-1

We have reviewed the draft Environmental Impact Statement (DEIS) on the P R Spring Hydrocarbon Lease Conversion. We have no comments.

We appreciate the opportunity to review the document.

Sincerely,

FRANCIS T. HOLT
State Conservationist

cc: Thomas N. Shiflet, Director of Ecological Sciences, SCS
George Bluhm, WNTC, Portland, OR
Bob Allen, PM, Roosevelt, UT



The Soil Conservation Service
is an agency of the
Department of Agriculture

Response to Comment Letter 13

- 13-1 Thank you for your interest in the P R Spring Combined Hydrocarbon
Lease Conversion Draft EIS.



IN REPLY REFER TO:

United States Department of the Interior

NATIONAL PARK SERVICE

ROCKY MOUNTAIN REGIONAL OFFICE

655 Parfet Street

P.O. Box 25287

Denver, Colorado 80225

L7619 (RMR-PP)

JUL 17 1985

Memorandum

To: Project Leader, Division of EIS Services, Bureau of Land Management, Denver, Colorado

From: Associate Regional Director, Planning and Resource Preservation, Rocky Mountain Region

Subject: P R Spring Combined Hydrocarbon Lease Conversion Draft Environmental Impact Statement (DES 85/28)

We have reviewed the subject document and have the following comments:

- 14-1 How does the Resource Significance Criteria for Recreation (p. A-54) apply to the secondary zone of influence for recreation which includes Dinosaur National Monument (p. A-47)? In Table B-67, are the acreages given under
- 14-2 Recreation significant when the criteria are applied? Again, how does this affect the secondary zone of influence? Perhaps the secondary zone should be treated as part of the Socioeconomics part of Table B-67.

Richard A. Strait

Responses to Comment Letter 14

- 14-1 The three recreation significance criteria (draft EIS, page A-54) apply to the secondary zone of influence. There would be no significant environmental consequences to Dinosaur National Monument.
- 14-2 The acreages identified in Table B-67 of the draft EIS represent the cumulative acreage temporarily disturbed. This average would have no significant effect upon either the demand for or supply of recreation opportunities within the secondary zone of influence. Even when applying the three recreation significance criteria to the socioeconomic secondary zone of influence for cumulative analysis, none of the recreation significance criterion would be met or exceeded. This is based upon ample availability and supply within the secondary zone of influence for both dispersed and facility-oriented recreation opportunities.



United States Department of the Interior

GEOLOGICAL SURVEY
RESTON, VA. 22092

In Reply Refer To:
WGS-Mail Stop 423

JUL 24 1980

Memorandum

To: Robert E. Pizel, Project Leader
Bureau of Land Management, Denver, Colorado

From: Assistant Director for Engineering Geology

Subject: Review of draft environmental statement on the PR Spring
Hydrocarbon Lease Conversion, Utah

We have reviewed the statement as requested in a letter received May 29 from the District Manager, Vernal District Office, Bureau of Land Management and offer the following comments for your consideration.

15-1

On page A-22 it is stated that the total water use for the commercial phase of in situ recovery on a 10-acre site would be 8.5 gallons per minute or 0.3 acre-feet per year. These water use values should be checked. For continuous operation it appears that 8.5 gpm would correspond to about 13.4 acre-feet per year, not 0.3 acre-foot per year. This discrepancy should be explained or corrected. Other estimates of the various projects' unit water demands may also need to be examined (e.g. p. B-7, B-10, B-35, B-49, B-53, B-65, B-69, B-88, B-141, B-228). If the amount of 13.4 acre-feet per year is to be used instead of 0.3 acre-foot per year for each 10-acre site under commercial production, the calculations of cumulative impact on ground-water quantity (Table B-67) should be reexamined.

15-2

The statement should consider the typical characteristics and concentrations of organic and inorganic constituents of effluents and by-products generated within the tar sands by the in situ processes. The following references will be helpful: (1) Barbour, F.A., Guffey, F.D., and Dorrance, S.M., 1978, Preliminary examination of waste waters produced during an in situ retorting of oil sands, in The oil sands of Canada-Venezuela, 1977, The Canadian Institute of Mining and Metallurgy Special Volume 17, p. 743-748 (Utah tar sands involved) and (2) Strosher, M.T. and Peake, E., 1978, Organic constituents of oil sands extraction plant wastewaters, in The oil sands of Canada-Venezuela, 1977, The Canadian Institute of Mining and Metallurgy Special volume 17, p. 749-758.

- 15-3 The statement should address more adequately and specifically the effects on ground-water quality from enhanced ground-water contact with the partially depleted tar sands, in which permeability will be considerably increased through the removal of much of the bitumen. Prior to in situ removal of most of the bitumen, the tar sands would function as barriers to ground-water movement; however, after much of the bitumen is removed, ground water will be able to move in and through the depleted tar sands much more freely, and thus come into contact with products of combustion and residuals. The analysis of effects on ground water should address both those resulting from lengthy contact within the sands and those resulting when water merely passes vertically or laterally through the depleted tar sands.
- 15-4 Additional evidence should be presented to confirm that the project would only cause insignificant sedimentation problems within or downstream of developed areas.

J. F. Devine
James F. Devine

Copy to: District Chief, WRD, Salt Lake City
(information only)



Responses to Comment Letter 15

15-1 While 8.5 gallons per minute is the pumping rate, water use would not be continuous. A total of 0.3 acre-feet would be used per year per project, as stated in the draft EIS, page A-22.

15-2 In the future, as more site-specific analysis is needed, the two references should be of value.

When core drilling is completed and the necessary additional permits from the state of Utah are reviewed, the characteristics of generated constituents and the ground water system will be reviewed.

At this time, the analysis does not show any impacts to ground water. There are several different projects with different sets of affected environments, but the underlying reason no impacts are predicted are:

- Near-surface ore deposits with deep ground water zones
- Surface mine with controlled surface water
- Small in-situ operations progressing at a rate of .2 to 2 acres per year
- Ground water highly localized in the upper system
- Little recharge reaching the saturation zones by passing through the tar sand beds

15-3 The present location of springs in the upper ground water system indicates that there are beds above the tar sand beds that block the downward movement of water. In addition, recharge is very slow in the dry climate. There are very few springs in the area, and almost none are located at the top of the tar sand zone.

15-4 Since no specific project was mentioned, it is assumed the commenter was referring to sedimentation problems in general. The companies have proposed several measures to reduce soil erosion and sedimentation (see pages C-22 through C-33 of the draft EIS). In addition, both federal and state required measures have been designed to prevent or reduce erosion impacts (see pages C-13 thorough C-22). With these measures in place, and given the nature of the proposed actions, the analysis indicates that impacts would be insignificant.

UNITED STATES GOVERNMENT

memorandum

DATE: JUL 23 1985
 ACTING
 REPLY TO: Phoenix Area Director
 ATTN OF:

SUBJECT: DEIS Review, PR Spring Combined Hydrocarbon Lease Conversion

TO: Robert E. Pizel, Project Leader
 BLM, Division of EIS Services
 555 Zang Street, First Floor East
 Denver, Colorado 80228

The following comments are provided by the Uintah and Ouray Agency at Fort Duchesne:

— There are two areas of concern we have with the proposed projects discussed in this document. Two projects, the Enercor and the Kirkwood will impact the Ute Tribe directly in population growth and potential cultural resource degradation.

16-1 The narratives for both projects predict an increase in population of the smaller communities ranging from 1-17%. Specific mention is made of the communities of Gusher and Ouray. The resultant impacts (increased culinary water demand, police protection, fire protection, etc.) are brought out in the document. However, our concern is how these impacts can be mitigated for Indian communities. Utah Code Annotated Section 63-51-10 (Supp. 1981) Senate Bill 170 provides for socioeconomic mitigation analysis of non-Indian communities. This document makes reference to the above state statute, but it is unclear if it applies to Indian communities as well. If it does not apply, then what avenue may the tribe pursue to mitigate for forecasted impacts?

16-2 Our other concern is with the recognized impact (through increased trespass) to cultural resources important to the Ute Tribe. Both of these projects are either bordering or are in close proximity to the Hill Creek Extension. This area is also known as the Wildlife and Cultural Resource Protection Area of the Ute Tribe. It is an area of great importance to the Ute Tribe both for its cultural and wildlife values. Due to it's remoteness, we do not know how impacts to these values can be mitigated or controlled.

Due to circumstances of workload, this office was not able to compile the above comments within the time allotted. Because of the critical interest in this project by the Ute Tribe, however, we trust you will be able to address the issues raised herein.



OPTIONAL FORM NO. 10
 (REV. 1-80)
 GSA FPMR (41 CFR) 101-11.6
 5010-114

GPO : 1984 O - 446-111

Responses to Comment Letter 16

- 16-1 The reservation is a separate and distinct governmental entity, with specific jurisdictional responsibilities administered by the Ute Indian Tribal Council. It contains Indian tribal lands and Indian-allotted lands, as well as private lands, and both Indians and non-Indians live within the reservation boundaries. State law does not apply to tribal lands. However, it does apply to the private lands and communities that are not under the jurisdictional responsibility of the tribe. State and local officials are on record as supporting the intent of the state law relating to the Ute tribe. Mitigation may be negotiated between the tribe and project developer, but this is considered an unresolved socioeconomic issue. See also the draft EIS, page A-3, Unresolved Issues.
- 16-2 The impacts to the Wildlife and Cultural Resource Protection Area of the Ute Tribe have been identified in the draft EIS. It is suggested that the Ute Indian Tribal Council work closely with Kirkwood and Enercor industry representatives in an effort to avoid the potential for illegal trespass upon tribal lands.

Clay Johnson
P.O. Box 31
Jensen, Utah 84035
7 August 1985

Lloyd H. Ferguson
District Manager
Bureau of Land Management
170 North 500 East
Vernal, Ut 84078

Dear Lloyd,

The following are my comments on the P. R. Springs Lease Conversion EIS. Please excuse any typing errors, I'm rather pressed for time.

I think the EIS fails to meet the mark as set in its scoping because of the following false assumptions.

- 1
17-1 | The assumption that if leases on ground under consideration for wilderness are converted, this will not, on a real level, send signals to Congress which might affect the decision.
- 2
17-2 | The assumption that a certain percentage of habitat loss = only that percentage of wildlife loss. In many cases a small amount of habitat loss can mean a very large percentage of lost wildlife.
- 3
17-3 | The assumption that displaced wildlife goes somewhere else, to return after completion of a project. This fails to take into account greatly increased losses by predation and hunting on animals unfamiliar with new territory, as well as the strain the displaced animals put on wildlife resident to the new territory. An occasional paragraph mentions some of this, but only after losses from other factors have already been considered, and wildlife loss is dismissed as insignificant.
- 4
17-4 | The assumption that you can depend on a company for 50 or more years to stay in business and clean up after itself.
- 5
17-5 | The assumption pg B-83 that soils and vegetation removed for strip mining then replaced and replanted are not significantly impacted.
- 6
17-6 | The assumption pg B113 that on wilderness strip mined then replanted and abandoned, "wilderness values would be restored".
- 7
17-7 | The assumption on many projects that "only 10 acres at a time would be affected". It should be obvious that for instance, on the map on pg 21, more like at least 80 acres at a time would be affected visually, and for recreation and wildlife.

- 17-8 The assumption on the strip mine projects "only 30 acres at a time would be affected" in regard to vegetation, visual impacts, and wildlife, when it is casually mentioned that replacement of some plant species can take 50 years or longer.

- 17-9 On pg B-24 the opposite of "Benefits" should be "Damages" or "Losses".

- 17-10 The apparent assumption that everything in public trust in this area should either be locked up in official wilderness or locked up in industrial development. The actions being taken appear to conflict strongly with the traditional concept of multiple use.

- 17-11 The apparent adding of each completed project's effects into the baseline condition mentioned on pg B-29 and considering this baseline as the new starting point from which to consider environmental effects. This seems like continually moving the starting point in the direction of environmental degradation.

- 17-12 The assumption pg B-111 that erosion on sensitive soils would "gradually return to normal rates" and that "long-term productivity would not be impaired". I don't think anyone knows enough to make this statement.

- 17-13 The continued assumption that recreation would not be affected on over 52,000 acres when we see the example of White River Shale, with the paved roads and "NO TRESPASSING" signs.

- 17-14 The assumption that "developed recreational sites" are the only recreational areas to worry about, when most people that go to the Book Cliffs do so precisely to get away from "developed rec sites". The most valuable recreational lands we have left in Utah are probably the sparsely dirt road areas. We seem bent on developing all these into highways and towns.

- 17-15 The assumption that this land will return to multiple use ignores the time span. It won't be back in our time, our kids' time, or their kids' time.

- 17-16 The assumption that the choice in all cases is either "no action" or "total conversion". A much better plan would have been to allow one phase of selected projects, get hard data on total effects, then determine where you are and work from there.

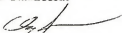
- 17-17 Worst: the assumption on all levels that effects aren't cumulative: that each lease and its effects exist in a vacuum instead of parts of a whole picture. These projects could affect at one time 52,000 acres of soils and vegetation including 4800 acres of sensitive soils, 12000 acres of cultural high density sites, 125 miles of roads, 11,700 acre-ft of water a year, 1350 people living on location, 6300 acres under consideration for wilderness, 2000 vehicle trips per day into or out of the area. 15% of elk calving and 15% of deer fawning ground (and this figure ignores facts covered in assumptions 2,3,7, and 8 above). Affected are 30,000 acres of crucial elk winter range, deer winter range, and 51% of elk summer range and 24% of deer summer range, summer range being the critical factor in the Book Cliffs

17-17 | area. Yet each of these projects is examined piecemeal, and we
(continued) | are told again and again there will be no significant impacts.

18

17-18 | The assumption that one agency or group of men at one point
| in time can make wise decisions committing vast areas of public
| trust land to a consumptive and I consider irreparable use when
| we have demonstrated that we don't know what is going to happen
| even 6 months from now in most cases. On land being sensibly
| grazed, or used for firewood gathering, hunting, camping, or
| other non consumptive uses, nothing is being permanently damaged,
| and administration can fine tune controls to keep it that way. A
| 100 year strip mining project is not easily adjusted, nor may the
| true effects become apparent until years after it is too late to
| do something.

Thanks for the opportunity to comment, Lloyd. I'm sorry for
any delay in getting these comments typed and submitted.



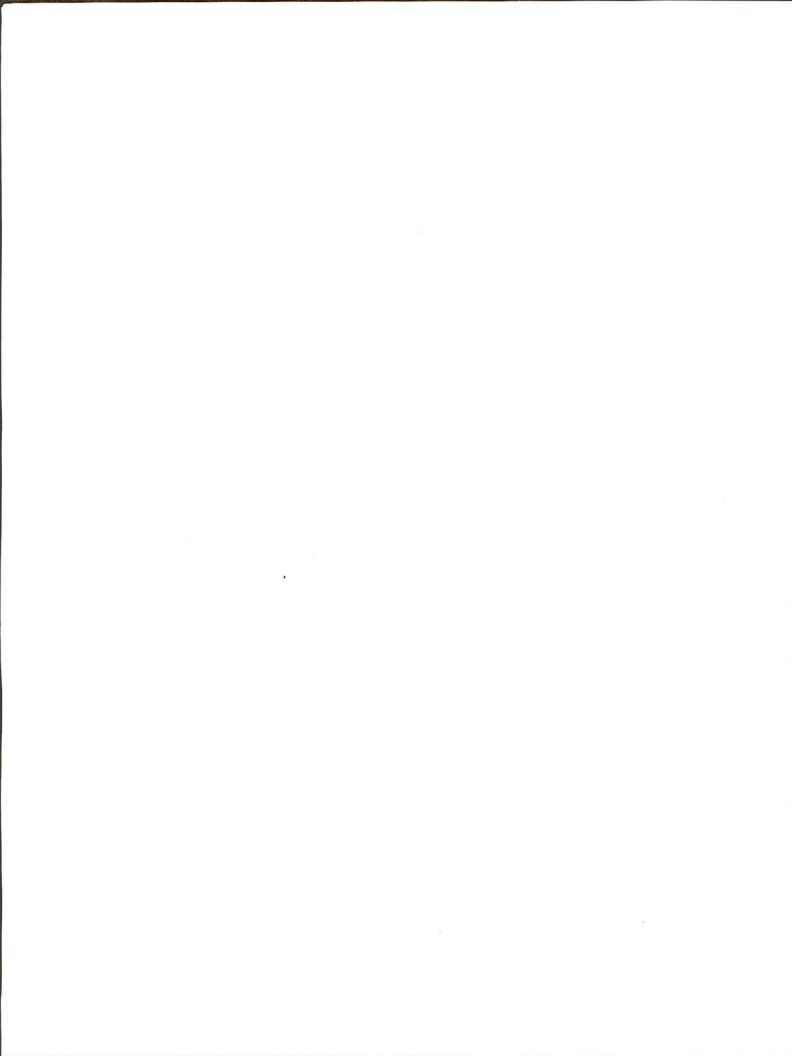
Clay Johnson
Advisory Board

Responses to Comment Letter 17

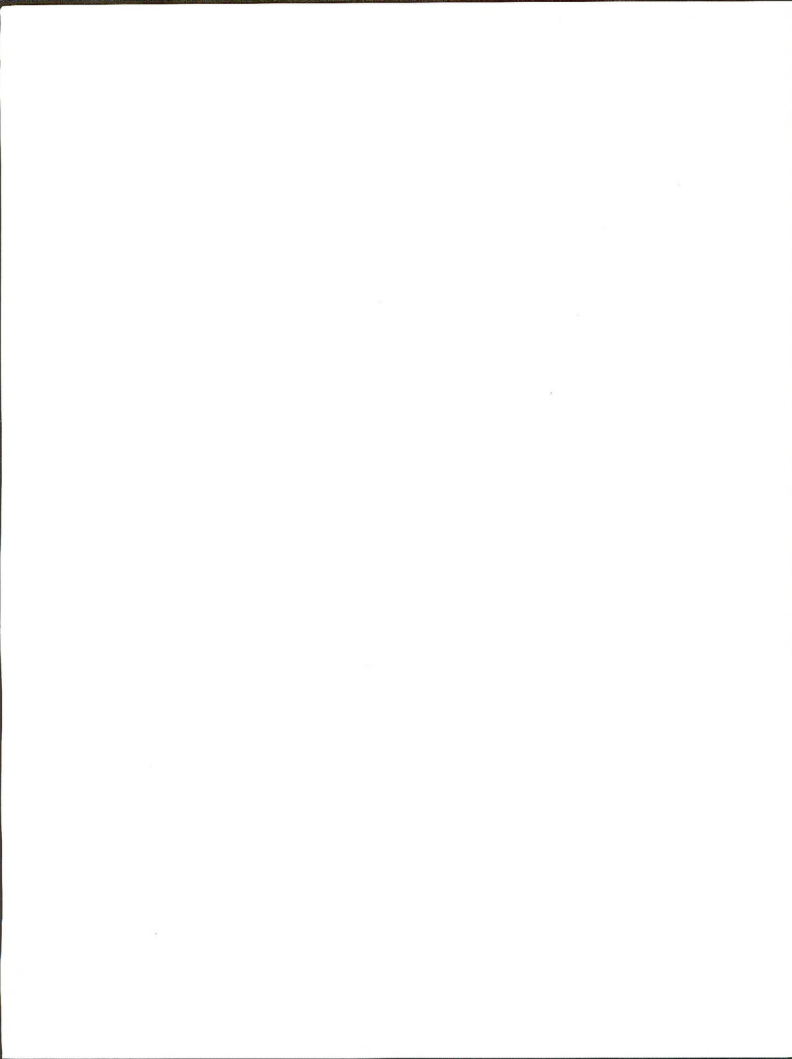
- 17-1 Proposed conversion of existing oil and gas leases to combined hydrocarbon leases within a portion of the Winter Ridge Wilderness Study Area (WSA) should not affect a Congressional decision on potential wilderness designation. Under Section 603(c) of the Federal Land Policy and Management Act, BLM is mandated to manage WSAs "so as not to impair the suitability of such areas for preservation as wilderness." Congress will consider the energy resource potential of the Winter Ridge WSA along with other resource values and concerns before making a final determination on the wilderness status of this WSA. Also see the response to comment 9-10.
- 17-2 You are correct. Disturbances in crucial habitats, so designated because they provide a crucial element in the environment of the wildlife species, can cause disproportionate losses of wildlife. Please refer to the draft EIS, pages A-40 to A-42, where the different habitat types and their importance are discussed, and to page A-53, Significance Criteria, where some habitats are listed as being significantly impacted if any disturbance occurs.
- 17-3 The assumption that wildlife would be displaced by mining activities is correct. Losses of native wildlife species caused by this displacement cannot be determined at current levels of knowledge. That such losses would occur is an established fact; only the levels are not known. These facts are discussed in each project writeup in the environmental consequences sections (see pages B-18, B-58, B-74, B-104, B-146, and B-168 of the draft EIS).
- 17-4 It is true that one cannot tell how long any company will stay in business. However, reclamation of disturbed land would be an ongoing process. Reclamation may not start the same year as disturbance occurred, but it would closely follow, which means that only the acreage shown as disturbed at any one time could be left unreclaimed. There are state and federal laws and regulations to prevent total abandonment of unreclaimed lands.
- 17-5 The reclamation and erosion control analysis presented in the EIS is based on results of current studies, research, and experiences of leading authorities and includes the latest state-of-the-art procedures. The reclamation and erosion control procedures and practices referred to in the analyses are well documented and have been demonstrated to be effective when properly implemented. See Appendix 2, Reclamation Procedures, in the draft EIS.
- 17-6 Proposed surface mining within 4,206 acres of the Winter Ridge Wilderness Study Area (WSA) will not be allowed. This would constitute a violation of Section 603(c) of the Federal Land Policy and Management Act and BLM's "nonimpairment criteria." The long-term restoration of vegetation is with regard to a possible increase in public visitation to the WSA, not surface mining activity or any other activity considered substantially noticeable and permanent by the time the Secretary of the Interior makes a wilderness recommendation to the President.

- 17-7 The 10 acres disturbed at one time refers to acreage with the vegetation removed or disturbed. The commenter is correct in stating that, depending on the resource, a "zone" of disturbance surrounds the area. This zone would vary with the resource. For a detailed description of the environmental consequences, see the draft EIS, Section B, Chapter 2, for each project.
- 17-8 The 30 acres disturbed at one time refers to the small in-situ projects. The two surface mines, Enercor and Mobil, would disturb 140 and 1,640 acres, respectively, at any one time. See Section B of the draft EIS for these two projects for more details. The acreage disturbed at one time is predicated on reclamation to a useful capacity, not restoration to the original state, which could require the 50-year period to replace some plant species.
- 17-9 A number of the "Resource/Item" categories on Table B-5 in the draft EIS are designated as involving "Trade-Offs" because they depend on the perspective of the reader. For example, "Tar Sand Resources" can be considered as being put to man's benefit through development but as a "loss" once they are used. "Local Prices and Wages," which will probably rise, would be a benefit to merchants and employed wage earners, but not to consumers and people on fixed incomes. Therefore, the term "Trade-Offs" is more accurate.
- 17-10 The traditional concept of multiple use and its culmination in the BLM planning system can only be realized on large acreages. Individual smaller tracts, of necessity, must be dedicated to limited or even single uses. A tract whose highest and best use has been determined to be mineral production can provide for other uses only if they are compatible with the mineral operation. By the same token, a developed recreation area normally does not provide for timber harvest, wildlife habitat, livestock grazing, or mineral production.
- 17-11 The meaning of the comment is unclear. The page reference is to the table of contents for the Beartooth B Project. A definition of baseline can be found on page C-82 of the draft EIS.
- 17-12 Refer to Response to Comment 17-5.
- 17-13 Although 52,631 acres of the recreation land base in the secondary zone of influence would be disturbed as stated in the draft EIS under the High-Level Scenario Cumulative Impacts column of Table B-67, only 11,310 acres would be removed at any one time for recreation use. This figure is insignificant, considering the millions of other acres available to the public for undeveloped recreation opportunities and experiences.
- 17-14 Developed recreational sites are not the only recreation areas of concern. Potential impacts to undeveloped recreation opportunities and experiences are of equal concern and are addressed in the EIS. The majority of recreation use occurring on public lands is in undeveloped recreational settings. Development of the undeveloped

- 17-14
cont. recreational land base will no doubt continue to occur in the energy-rich Uinta Basin. Balancing this development with an "adequate" amount of undeveloped areas for recreational use and enjoyment for the public is a continuous part of BLM planning and management. Your concern regarding this subject will be considered in the final decision for potential lease conversion in the P R Spring and Hill Creek STSAs.
- 17-15 Reclamation of the soil and vegetation will closely follow the disturbance. As discussed in the draft EIS (pages B-16, 39, 57, 73, 102, 127, 145, 167, 210, and 233), restoration to the original state could require from 5 to 50 years. However, a return to multiple use involves reclamation to a useful capacity, which would require only 4 years (page A-28).
- 17-16 The Combined Hydrocarbon Leasing Act (CHLA) does not provide for issuance of a lease or portions of leases that would allow for operation of only a single phase, such as the exploration or pilot phase. The CHLA specifically requires that a plan of operations may (emphasis added by author) include an exploration phase but must include a development phase. The Regulations allow for exploration after conversion and for modifications to a plan of operations if that exploration results in a need for changes. There should be no need for partial plans and, more importantly, the Department of the Interior has no authority for approving anything but a complete plan of operations before a lease or mining claim can be converted. (Federal Register, Vol. 47, No. 100, 5/24/82, Section 3140.4-1).
- 17-17 We are unsure as to which assumption the commenter is referring to. However, we assume that the comment refers to assumption 4 on page A-26. This is a correct assumption. However, the commentator should refer to page B-239 of the draft EIS for the cumulative analysis. Also, please refer to the response to comment 12-5, which further explains the cumulative analysis approach.
- 17-18 According to the Combined Hydrocarbon Leasing Act, a determination must be made at this time whether or not to convert applications within special tar sand areas to combined hydrocarbon leases. To help make this determination, the EIS must be based on state-of-the-art information available at the time it is written. As technology develops and plans of development become more detailed, there will be other opportunities for environmental review of updated proposals.



SECTION 3
BIOLOGICAL OPINION





United States Department of the Interior
FISH AND WILDLIFE SERVICE

ENDANGERED SPECIES OFFICE
2078 ADMINISTRATION BLDG.
1745 WEST 1700 SOUTH
SALT LAKE CITY, UTAH 84104

September 18, 1985

IN REPLY REFER TO

SE/SLC:6-5-85-F-020

MEMORANDUM

TO: District Manager, Vernal District, Bureau of Land Management,
Vernal, Utah

FROM: Field Supervisor, Endangered Species Office, U.S. Fish and Wildlife
Service, Salt Lake City, Utah

SUBJECT: Biological Opinion - PR Spring Combined Hydrocarbon Lease Conversion
Projects

This biological opinion has been prepared in response to your June 20, 1985, memorandum requesting Section 7 consultation for the PR Spring Combined Hydrocarbon Lease Conversion Projects. This opinion has been prepared as prescribed by Section 7 of the Endangered Species Act (ESA), 16 U.S.C. 1531 et seq., 50 CFR 402.

BIOLOGICAL OPINION

The conversion of existing oil and gas leases for the Beartooth A, Beartooth B, Bradshaw, Duncan, Enercor, Enserch, Farleigh, Kirkwood, Mobil, and Thompson projects within the PR Spring and Hill Creek Special Tar Sand Areas (STSA's) to combined hydrocarbon leases is not likely to jeopardize the continued existence of the black-footed ferret (Mustela nigripes), Colorado squawfish (Ptychocheilus lucius), humpback chub (Gila cypha), bonytail chub (Gila elegans) and Uinta Basin hookless cactus (Sclerocactus glaucus). We concur with your "no effect" determination for the bald eagle (Haliaeetus leucocephalus) and the peregrine falcon (Falco peregrinus). Recommendations are provided to aid in the conservation of listed endangered species.

PROJECT DESCRIPTION

The Bureau of Land Management (BLM) has received proposed plans of operations from 9 applicants for 10 tar sand projects to convert 44 existing oil and gas leases to combined hydrocarbon leases in the PR Spring and Hill Creek Special Tar Sand Areas (STSAs). Approval of the conversion applications would allow the applicants to commercially develop tar sand deposits. The 10 projects are: Beartooth A, Beartooth B, Bradshaw, Duncan, Enercor, Enserch, Farleigh, Kirkwood, Mobil and Thompson. Mobil and Enercor propose surface mines and processing plants, while the remainder of the projects would be in situ operations. Table 1 presents a summary of the proposed action.

Table 1. Summary of Proposed Lease Conversions

Proponent	Oil and Gas Leases to be Converted (acres)	Recovery Method	Estimated Bitumen Production (barrels per day)
Beartooth Oil and Gas Co. "A"	1,181.19	in situ	150
Beartooth Oil and Gas Co. "B"	1,520.37	in situ	150
F. J. Bradshaw Estate	320.00	in situ	150
Walter Duncan Oil Properties	1,600.00	in situ	150
Enercor	26,583.56	surface mine & processing plant	5,000
Enserch Exploration, Inc.	1,080.00	in situ	150
Bill D. Farleigh	640.00	in situ	150
W. C. Kirkwood Oil and Gas	3,907.51	in situ	16,000
Mobil Oil Corporation	3,337.60	surface mine & processing plant	40,000
J. C. Thompson	74.48	in situ	150

While details beyond the actual lease conversion are vague at this time, possible adverse impacts of the proposed projects on endangered species include surface disturbance (34,600 acres), direct water depletions from surface waters of the upper Colorado River basin (11,000 acre-feet) and additional water use of up to 4,200 acre-feet from the Douglas Creek aquifer and other sources.

BLM has included as part of the proposed action the need for endangered plant surveys prior to any surface disturbance on all project areas; black-footed ferret surveys will be required prior to any surface disturbance on the Beartooth A, Enercor, Kirkwood and Mobil projects.

BASIS FOR OPINION

FWS believes that the conversion of existing oil and gas leases to combined hydrocarbon leases, is not likely to jeopardize the continued existence of any listed species. Based on the project description and stipulations which BLM has agreed to incorporate in the leases, these lease conversions do not constitute an irreversible or irretrievable commitment of resources.

CONSERVATION RECOMMENDATIONS

FWS recommends that BLM place the following stipulations in each converted combined hydrocarbon lease:

"The lessee shall develop a plan of operation which will fully protect listed or proposed threatened and endangered species and shall submit the plan to BLM for review and approval. The plan must cover species occurring on site as well as those off-site species which may be directly or indirectly impacted. If BLM determines that the project "may affect" listed species they should initiate formal Section 7 consultation with FWS at that time.

"This lease is issued and accepted with the express agreement that such consultation may require adjustments to the plan of operation, additions of special conservation measures, or limitations to the project in order to assure compliance with such provisions of the Endangered Species Act as may be applicable as determined by FWS at the time of development."

This biological opinion applies to the previously described PR Spring Combined Hydrocarbon Lease Conversion projects with survey requirements for Sclerocactus glaucus and Mustela nigripes. Should there be any amendments or modifications to the plans of operations in the conversion projects or survey requirements, BLM should contact FWS to determine the need for reinitiating Section 7 consultation.

Thank you for your interest and cooperation in conserving endangered species.

Robert H. Ruesink

Form 1496-3
(Rev. 1986)

BORROWER

TD 195 .595 P
Final environ
statement on

DATE LOANED	BORROWER

USDI - BLM

United States Department of the Interior
Bureau of Land Management
Denver Service Center
Division of EIS Services
555 Zang St. - First Floor East
Denver, CO 80225

FIRST CLASS MAIL
POSTAGE AND FEES PAID
U.S. DEPARTMENT OF THE INTERIOR
PERMIT NO. G-76

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE \$300

Jim Rush
Box 580
Grand Junction, CO 81502